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ABSTRACT

Narrative text, tables, maps, and photographs present an overview of the Appalachian Regional Commission's (ARC) activities in fiscal year 1978, their past achievements, and goals for the future. The report discusses major accomplishments of 1978: nearly 56% (1700 miles) of the Appalachian Development Highways System was completed or under construction, 102 water and sewer projects were approved helping to alleviate a major public facility need, $6 million was approved for housing programs in nine states, 259 primary health care clinics were certified for reimbursement under Medicare and Medicaid, 88 vocational education projects were funded, 52 of the 69 local development districts were using the areawide action program thereby coordinating their districts' planning and development activities. Separate chapters summarize projects in the areas of transportation; community development and housing; enterprise development; energy, environment, and natural resources; and human development (health, education, and child development). The role of multicounty planning agencies, the involvement of local citizens, and the planning and research activities of the ARC are outlined. Appendices contain total project funds approved in fiscal year 1978 for each of the 13 Appalachian states and a directory of local planning districts. (JH)

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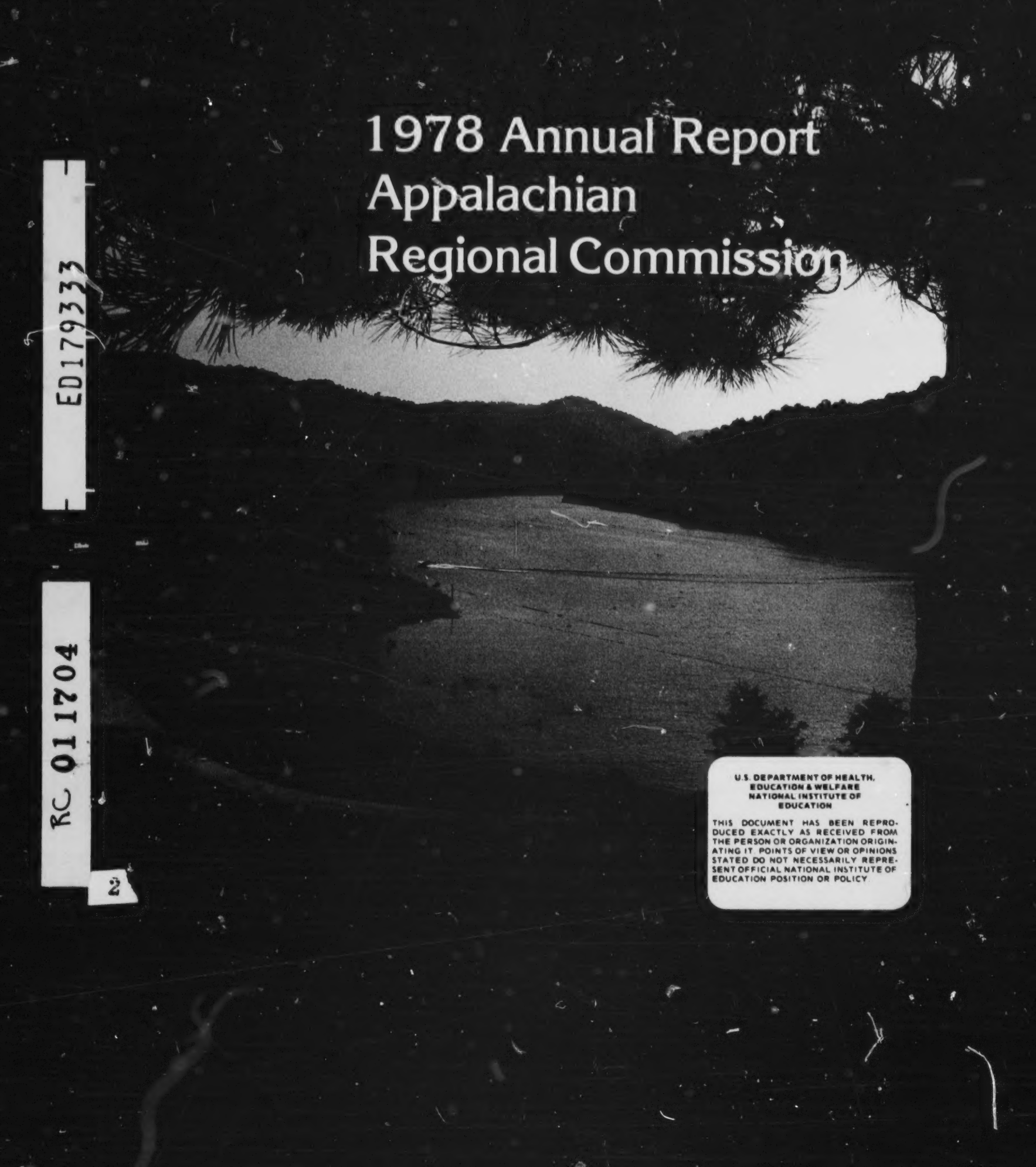
1978 Annual Report Appalachian Regional Commission



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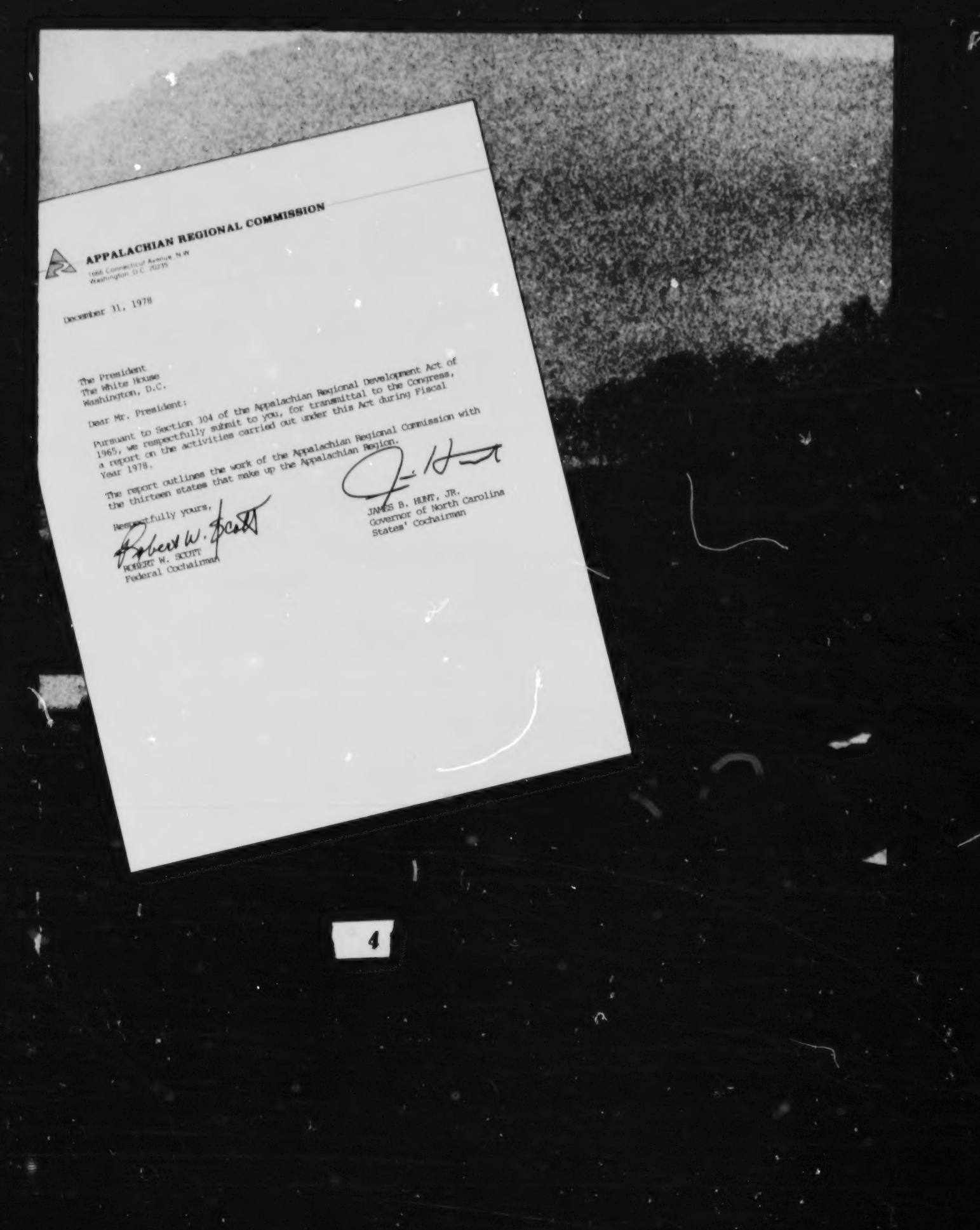

APPALACHIAN REGIONAL COMMISSION

1666 Connecticut Avenue N.W.
Washington, D.C. 20235

December 31, 1978

The President
The White House
Washington, D.C.

Dear Mr. President:

Pursuant to Section 304 of the Appalachian Regional Development Act of 1965, we respectfully submit to you, for transmittal to the Congress, a report on the activities carried out under this Act during Fiscal Year 1978.

The report outlines the work of the Appalachian Regional Commission with the thirteen states that make up the Appalachian Region.

Respectfully yours,

Robert W. Scott

ROBERT W. SCOTT
Federal Cochairman

JAMES B. HUNT, JR.
Governor of North Carolina
States' Cochairman

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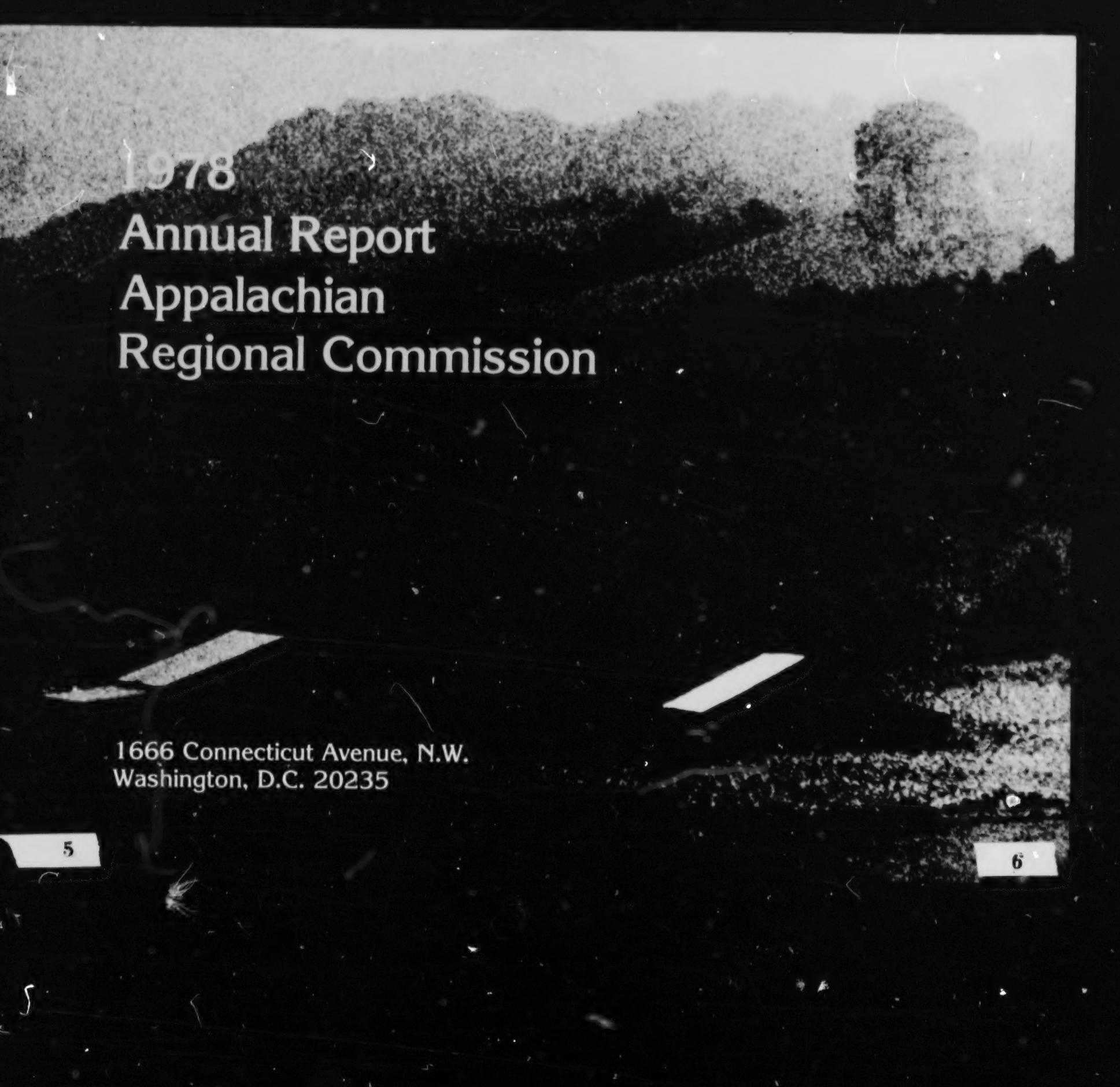

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September 30, 1978

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[1]Acting Governor Blair Lee III served as States' Cochairman until December 31, 1977.

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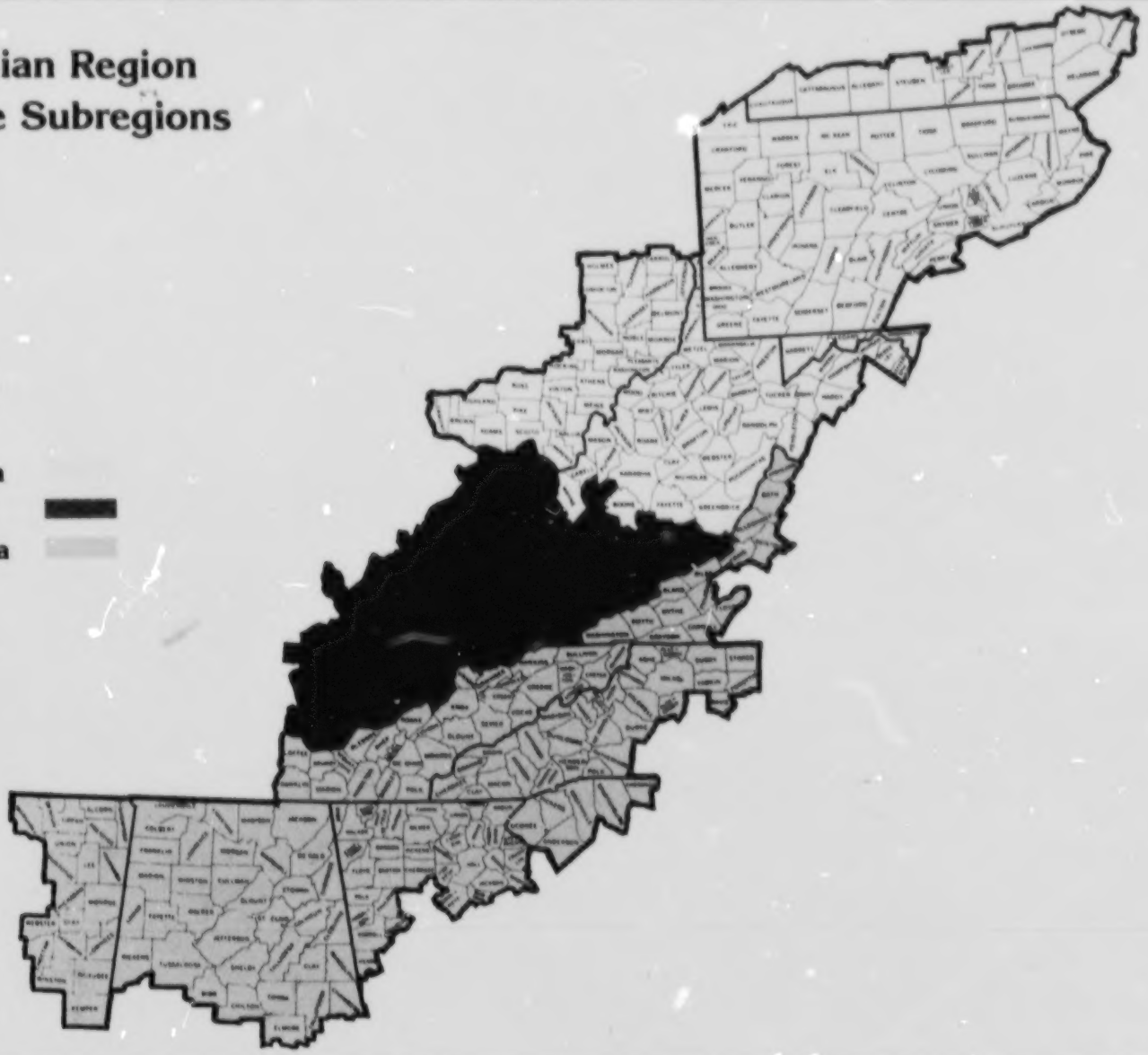
Cover photograph: Lake Buckhorn, built by the Army Corps of Engineers in the late 50s and early 60s, was the first lake created as an integral part of a state park. Kentucky's network of state parks is a basic element in the development program for this "Little Switzerland" area in Appalachian Kentucky. Photograph by Kenneth Murray.

The Appalachian Region and the Three Subregions



What Is Appalachia?

Appalachia, as defined in the legislation from which the Appalachian Regional Commission derives its authority, is a 195,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi. It includes all of West Virginia and parts of twelve other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee and Virginia.

What Is ARC?

The Appalachian Regional Commission (ARC) is composed of the Governors of the 13 states that comprise Appalachia and a federal cochairman who is appointed by the President. A states' cochairman is elected from among the Governors; the position is rotated among the states. The Governors appoint a states' Washington representative who represents the interests of the states on a day-to-day basis within the Commission. The Commission's staff of about 110 persons is headed by an executive director.

For many years, Appalachia, despite its rich natural resources, has suffered from chronic economic and social distresses: isolation; a lack of transportation to counteract its inaccessibility; boom-and-bust cycles of prosperity and poverty; unemployment; inadequate public facilities; a lack of social services. The Commission was established by Congress in 1965 as a means of building a better economy and a better quality of life for Appalachia and its inhabitants.

ARC represents a unique experiment in cooperation and in American government. The Commission's development program is the largest and most diversified effort of its kind ever undertaken in the United States. And ARC itself is a unique partnership of federal, state and local government.

This partnership is the key to the way in which ARC does business for Appalachia. A development program or a specific project proposal can be brought before the Commission only by a state: no projects can be initiated at the federal level. All formal approvals of state investment programs require the affirmative vote of a majority of the Commission's member states and the federal cochairman.

A basic element in the ARC partnership is local participation in the Commission's development program. To assist local planning and to ensure that ARC funds are used to serve local communities, the Commission, through its member-states, works with areawide planning and development agencies, known as local development districts (LDDs). Each LDD has a board, consisting of elected officials and public representatives of several counties, and a professional staff. The board and staff work with the local citizenry to assess local needs, to determine local priorities and to prepare local development plans based upon those needs and priorities.

The primary goals of the Appalachian program include:

providing every person living in the Region with the opportunity to acquire the health and skills needed to compete in everyday life wherever he or she chooses to live

providing more jobs and a more diversified economic base in the Region.

To accomplish these aims, Appalachia must have an adequate transportation system, community facilities (sewers, water and solid waste disposal systems, housing and related amenities), schools, and hospitals and must take advantage of its rich natural resources without harm to the environment.

Chapter I

A Year of Participation and Advocacy

For the Appalachian program, fiscal 1978 was a year of participation and advocacy.

Not only did participation in Commission planning and activities on the part of citizens of Appalachia increase greatly, but the Commission itself participated to a greater extent than ever before in helping to determine national policies.

Programs and projects of the Appalachian Regional Commission are funded to carry out the policies determined in the Commission's regional planning process. This process is a complex interaction of face-to-face discussion and debate among Appalachian citizens, federal, state and local elected officials and other public servants. As a part of the process, public meetings are held in the Region to discuss the regional plan, which is not a static document but a constantly changing set of policies and guidelines. Periodic regionwide conferences help to develop these regional policies.

ROBERT RATHE

Vice President Walter Mondale, en route to address the Appalachian Conference on Balanced Growth and Economic Development, speaks with reporters at the Charleston, West Virginia, airport.

In October 1977 the Appalachian Conference on Balanced Growth and Economic Development drew 250 government leaders, businessmen, educators and other citizens to Charleston, West Virginia, to discuss five broad areas of concern to the Region:

- the structure of federalism
- energy
- jobs, income and human services
- environment and natural resources
- private sector involvement.

Recommendations made by the participants at this conference were adopted with little change by the Appalachian Governors at a subsequent Commission meeting and in January 1978 forwarded to the nationwide White House conference on the same subject—a conference chaired by Appalachian Governor John D. Rockefeller IV of West Virginia. The recommendations eventually affected national legislation (see below).

By the end of the fiscal year, another regionwide conference was being planned for early fiscal 1979. North Carolina Governor James B. Hunt, Jr., ARC states' cochairman, was to chair a four-day conference in November in Asheville on "Raising a New Generation in Appalachia." The focus of the conference was set: determine what actions can best prepare today's children to meet the responsibilities and enjoy the benefits of tomorrow's Appalachia.

Both of these conferences, and such other ARC-sponsored meetings as the series of coal seminars held in the first half of 1978, are encouraging Appalachian citizens to play a bigger role in determining policies that will affect their future lives. The conferences are also enlarging the role of ARC and Appalachia on the national scene and giving the Region an important opportunity to have its voice heard nationally. One of the policies

that emerged from the Charleston conference and was supported by the White House conference was the desirability of extending regional commissions to cover the entire nation, a policy that has become a Carter Administration policy. Three amendments to the ARC extension legislation—providing direct support for innovative projects and demonstrations of packaging and delivering a range of human services and related public facilities, modifying restrictions in assistance to low- and moderate-income housing programs and permitting states to provide technical assistance and loans to small business enterprises—were incorporated in the legislation as a direct result of recommendations from the Charleston conference.

In addition to seeing that national attention is given to Appalachian views, the Commission has a responsibility to perform an advocacy role for the Region. Where Appalachian problems affect development in the Region and cannot be solved by local, state or regional efforts or by ARC alone, the Commission addresses the issues on behalf of the Region. The Appalachian Governors, for example, worked together to get national legislation adopted that would permit reimbursement by Medicare and Medicaid for physician extenders in rural clinics even when physicians were not present in the clinics. Without these payments, which became legal on December 27, 1977, many small rural clinics could not survive financially. Other Appalachian problems for which the Commission is advocating national solutions include the maintenance of coal-haul roads and more realistic site and construction standards for housing.

Population Change

The 1977 population of Appalachia is estimated at 19,327,300, a gain of 1,110,[illegible] over 7-¼ years since the 1970 census. There was a natural increase of 679,000 during the [illegible]7 period (2,062,900 births and 1,383,9[illegible] deaths), which accounted for 61 percent of the p[illegible]n gain. The remaining 39 percent was due to a net inmigration of 431,200, a striking change from the days when thousands moved out of the Region each year in search of economic opportunity. More detailed information on population changes in the Region, as well as statistical information on employment and unemployment, education, health, housing and natural resources, is available in the 1979 edition of Appalachia—A Reference Book. This second edition is available upon request to the Commission's Communications Division.

Total Personal Income Trends

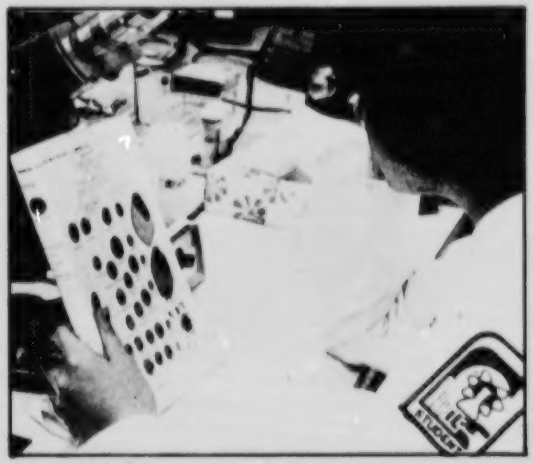
Total personal income in the Appalachian Region increased from $39 billion in 1965 to $104 billion in 1976, or from 7.3 to 7.6 percent of the U.S. total, which rose from $535 billion to $1,373 billion. Most of this change over the eleven-year period was attributable to inflation. If the dollar changes are adjusted for inflation, per capita income increased by 30 percent in the United States as a whole, and by 41 percent in the Appalachian Region: it required approximately $1.77 in 1976 to equal $1.00 in 1965.

Changes in per capita income levels from 1965 to 1976 were uneven within the Appalachian Region: the gains in relative per capita income were most rapid in Central Appalachia (from 52 to 72 percent of the national average level), and in the entire group of rural counties in the Region. In Northern Appalachia, with the highest average income levels, the rate of closing the gap (from 87 to 90 percent of the national average level) was only one-half the average for the Region as a whole. Southern Appalachia's per capita income, below the Region's average in 1965, increased at a slightly higher rate than the regional average (from 73 to 81 percent of the national average level).

Highlights of the Year

Some of the major program accomplishments of fiscal 1978 included:

- 1,700 miles of the Appalachian Development Highway System (nearly 56 percent of the total) are now completed or under construction.
- 102 water and sewer projects were approved to help alleviate one of the major public-facility needs in the Region.
- More than $6 million was approved for Appalachian housing programs, under way in nine states.
- 259 Appalachian primary care clinics were certified under the Rural Health Clinics Act so that physician extenders in these clinics could be reimbursed under Medicare and Medicaid.
- ARC funded 88 vocational education projects, more of them (33) operating projects than ever before, in line with the shift away from bricks-and mortar projects.
- 52 of Appalachia's 69 local development districts were using the areawide action program (AAP) process and thereby combining their districts' planning and development activities into a coordinated program. ■



A student in a laboratory class at the ARC-funded Elizabethton (Tennessee) Paramedical Vocational-Technical School eyes her text.

ROBERT KATHE

Chapter 2

ARC—The Longer-Range Perspective

Appalachia has changed much since that March day in 1965 when the Appalachian Regional Commission was created. And with the help of several Congresses and Presidents, ARC has adapted to the changing Region and world.

In 1965 Appalachia needed almost everything: hospitals, highways, vocational schools, housing, public facilities, more jobs and income for Appalachians, a halt to environmental degradation. Neither the states nor the federal government had ever attempted to meet such a comprehensive array of needs in so vast a region.

A basic question had to be faced: where do we begin? Many argued that building highways and hospitals and the like would be too slow, that almost a generation would go without significant help.

But a counterview prevailed: ARC must take the necessary time to build a solid base for lasting development, thereby benefiting generations of Appalachians. Anything short of that would merely provide temporary treatment of symptoms. The tough decision was made: some immediate needs had to be met, but ARC's major resources would go into building the base for comprehensive long-range development.

In the very first year of ARC, a development highway system was laid out. The system, planned to tie in with existing highways, including Interstates, required the building of approximately 3,000 miles of new highways. It would penetrate to even the innermost parts of the Region, linking them with one another and with the rest of the country.

Building that system required two-thirds of the first annual ARC budget and a major, though somewhat declining, share of subsequent budgets. The cost of highway construction through the rugged Appalachian terrain is high.

By the end of 1978, the Appalachian Development Highway System was over half completed. A total of $2 billion in federal and $1.3 billion in state funds had been invested. But it had also become evident that the payoff from this investment was accelerating. Even with the system incomplete, new industries and businesses were creating jobs along the corridors. In sparsely populated areas, the outreach of health facilities, vocational schools and shopping centers was being extended far enough to permit critical economies of size.

And through the early years of the Commission, additional millions of dollars were invested in other building projects—in "hardware," or "bricks and mortar," in the jargon of development. Hospitals and vocational schools got high priorities. Water and sewer systems and other public facilities were built in hundreds of Appalachian communities with growth potential.

By the mid 1970s, the Region was beginning to catch up with some of its hardware needs. Vocational and technical schools were within commuting distance of almost all the people of Appalachia, for example, and there were enough hospital beds in the aggregate, though a few communities were still not adequately served.

In 1974, nearing the end of its first decade, ARC conducted an extensive program design project, including public meetings throughout Appalachia, to assess progress and set a course for the future. Different states were in different stages of catching up. The needs of Northern Appalachia, Central Appalachia and Southern Appalachia were not always the same. But several conclusions were reached. Vocational education and health dollars could henceforth, in the main, go into programs and services rather than buildings and equipment. With the base for general development largely in place in many areas, there could be a more direct focus on job-creating enterprises.

TOMMY NORMAN

A worker adjusts a ribbon of plastic that will be made into bags at a plant in New Philadelphia, Ohio.

Then, in October of 1977, ARC took a different approach in a major evaluation. In Charleston, West Virginia, experts and spokesmen for diverse groups from all parts of the Region met to determine how to achieve "balanced growth" in Appalachia. Joined by the Appalachian Governors and ARC officials, they produced a set of recommendations which were, in the main, adopted by ARC in 1978. The trend toward services and away from construction in health and education was further supported. The potential and impact problems of a coal industry resurging to fill oil shortages would require major ARC attention. More action on housing, forestry, agriculture and aid to small cities, and more aggressive involvement of the private sector were set as ARC policies.

Some of the progress of Appalachia and the changes in ARC programs to adapt to changing conditions and experience can be seen in a single area. While no community, county or area is wholly typical, a three-county area in far southwestern Virginia gives life to the general data.

Southwest Virginia's LENOWISCO

Kenny Fannon has a long memory. "Use to be when I was growing up," he recalls, "that the only way to make a living around here was to pack up and leave. Most of the people I grew up with went to Indiana. But things are different now. My son got a job over at the Norris Company—the one in the new industrial park. I'd say there've been a whole lot of changes around here since I was a youngster."

Fannon manages the Robinette Structural Steel Company in Big Stone Gap, Virginia. He is also a member of an advisory committee to LENOWISCO, a local development district (LDD) that includes Lee, Wise and Scott counties and the city of Norton. To Fannon, the LDD has been the spark behind many of the positive changes that have occurred in its three-county area.

The LENOWISCO district lies in Central Appalachia, and the LDD finds itself addressing the

ANN HAWTHORNE

ANN HAWTHORNE

ANN HAWTHORNE

(ABOVE) LENOWISCO Director Bruce Robinette examines an LDD relief map with a board member. (RIGHT) Bill Clements, president of the Wise County National Bank in Norton (TOP), and George Hunnicutt (BELOW), the mayor of Norton, are enthusiastic supporters of LENOWISCO's development plans for the area.

problems peculiar to much of the Region. Early in 1965 when LENOWISCO was first organized, the area's needs were so widespread that choosing one specific concern proved difficult. Flood-related problems stood out among others, however, and first efforts were so directed. In its small-stream-maintenance program, the LDD dredged several creeks and streams that posed yearly threats during wet weather months. One river in particular, the North Fork of the Clinch River in Scott County, had an especially bad reputation for overflowing its banks and causing extensive damage to property around the small community of Duffield. After TVA made the river channel deeper at LENOWISCO's request, however, the land on either side of the North Fork was designated as being above floodplain level and suitable for development. Now LENOWISCO's central office and the sprawling Duffield Industrial Park have located on the reclaimed land.

"Remember the serious flooding that occurred in this part of Appalachia in April 1977?" asks Carl Peterson, another LENOWISCO board member. "Many communities suffered severe damage because of it, but our area around Duffield was spared because the river was deep enough and didn't rise above its banks. That might not seem like much to some folks, but it's meant quite a lot to those who live around here."

LENOWISCO's efforts extend far beyond flood control, of course. Included in its areawide action program (long-range planning and development) are land use studies, solid waste collection, housing development and a range of other projects common to most LDDs throughout the Region. The LDD is working with the area's small communities to help them secure grants for their water and sewer needs and develop sound capital improvement programs.

(TOP) The Duffield Industrial Park has begun to attract new businesses to the area. (BELOW) This shopping plaza outside of Norton was constructed on an abandoned surface-mine site.

The Duffield Industrial Park offers a glimpse of LENOWISCO's combined planning, operating stratagem. The park, constructed in 1970-71, was planned by the LDD. It is owned, operated and maintained by the Duffield Development Authority, a corporation formed by Lee, Scott and Wise counties and the city of Norton. LENOWISCO's staff functions as the staff for the development authority, while the LDD's operations division takes responsibility for maintaining the complex's water and sewer system. The five industries which comprise the park's present tenant list offer over 800 jobs to southwestern Virginians.

"Let's face it," Carl Peterson says, "ten years ago progress was pretty much at a standstill in these parts. I think LENOWISCO can take the credit for changing a lot of things for the better. Now, many young people who are thinking of leaving the area for jobs in other places are giving the idea a second thought. There's hope, you see."

The Coal Factor

In Central Appalachia's mixed bag of perils and pluses, the coal industry stands out like a giant black aggie amid so many smaller, duller marbles. The LENOWISCO district, Wise County particularly, is especially sensitive to the vagaries of the coal market. The economy of Norton, an independent city in the heart of Wise County, is based almost exclusively on coal and supporting industries. The city is the area's coal-shipping center, and its railyards are always thick with the huge hopper cars that transport coal to boilers all over the eastern United States.

"Before 1973," says Bill Clements, president of Norton's flourishing Wise County National Bank,

The people of Norton, Virginia, have experienced the booms and busts that come along with a coal-mining economy.

"virtually every dollar here was imported. But when mining in this area expanded to make up the difference in the fuel shortage caused by the Arab oil embargo, the place started generating its own money."

However, the Appalachian coal boom spawned in 1973 has slackened considerably since then. Most Wise Countians are not overly surprised by the reversal—it happened before and probably will happen again. They have learned to court prosperity gingerly since it is usually the first to leave town when the euphoria of a coal boom degenerates into the gloom of a bust. "People in Wise County had their druthers," says one old-timer who has lived through his share of good times and hard times, "there would never be a period of boom or bust, just a steady, strong, basic coal economy. Over in Norton's Mayor George Hunnicutt puts it: "When coal is booming, well, let me tell you, there's a lot of fleas that go with that old dog."

But it is long-established economic dogma that any area that pins its prospects for economic good health on a single industry, no matter what the industry is, lives under a constant threat. That is why agencies like LENOWISCO support programs aimed at diversifying the local economy. Well-constructed, attractive, strategically located industrial parks offer one kind of incentive for drawing additional business, as do good roads, good schools, health facilities and other public services.

Thomas Village

Housing, too, figures prominently in an area's overall economic prospects. An active housing development effort, one that combines federal, state and private resources to provide quality homes for people, is of primary importance in attracting new people to an area or in keeping long-time residents there. LENOWISCO's Thomas Village illustrates well what can be accomplished when local housing problems are tackled head on. The village began as a response to the severe spring 1977 flooding that swept many parts of Central Appalachia. One Scott County community, Clinchport, suffered extreme flood damage, and many residents were forced to leave their homes permanently. In the early summer of 1977, representatives from a number of state and federal agencies met in LENOWISCO's offices and tentatively mapped out plans for a housing development program for Scott County. As the plan evolved in subsequent meetings, it was decided to construct a subdivision adjacent to the Duffield Industrial Park. The 100-acre tract there was well above flood level and could easily accommodate a variety of housing styles. A new organization, the Southwest Development Corporation (an arm of LENOWISCO, like the Duffield Development Authority, which owns the industrial park), was created and assumed ownership of Thomas Village. Along with the Tennessee Valley Authority, ARC contributed grant monies to the project.

In its description of Thomas Village, LENOWISCO lists among its major objectives in sponsoring the project:

- to provide needed housing to facilitate energy development in the LENOWISCO district
- to provide an opportunity for flood-displaced residents from Clinchport and the surrounding area to acquire replacement housing within their financial capabilities
- to provide low-income housing critically needed by Scott County.

The District Then and Now

The statistics—charts and graphs and the like—offer factual proof that Appalachia's population, employment and income trends are definitely upward bound. But observing the Region's changes through LENOWISCO's eyes perhaps inspires a deeper sense of what Appalachia's recent progress means to the people who live in the hills and hollows, in the valleys and along the rivers.

Bruce Robinette, who directs LENOWISCO and has done so since 1968, remembers well what the three-county area was like in the mid 1960s.

"There was one vo-tech school in Wise County," he explains, "and that one was far from being fully developed. No community colleges existed in the entire district, and neither Lee nor Scott counties had any vocational education facilities. At the time, the area's unemployment rate was in the teens—far above the nation's average. In 1965 we realized that industrial development had to be one of our primary objectives."

Thirteen years later, the LENOWISCO area has three well-equipped and staffed vocational-technical schools that offer a wide assortment of technical training programs. Mountain Empire Community College in Big Stone Gap also has been created since the mid 60s. Together these institutions form vital links in LENOWISCO's development chain. The young people trained in the schools' mining technology classes, for example, or those schooled in welding or auto repair are prepared for jobs in the area's coal mine industry or for work with one of the new firms at the Duffield Industrial Park. It is, of course, no coincidence that new industries move in where trained workers are available to fill new positions.

And the industrial park—itself no minor miracle—exists where it does because of Corridor B, the four-lane highway that connects Asheville, North Carolina, roads from Atlanta, and points in-between with Columbus, Ohio. The highway means that industries in the Duffield park have ready access to market centers and that customers and employees have equally convenient access to goods and jobs within the park.

"Corridor B has affected this area in any number of ways," says Robinette. "Lonesome Pine Community Hospital in Big Stone Gap (a 70-bed facility built with ARC and Hill-Burton funds) is a center of health care, and the corridor makes it easier for people to reach it. It also makes it easier for ambulances to reach people. Prior to building of the new hospital, these three counties had less than 100 certified hospital beds among them."

Well on its way to meeting some of its most glaring needs, the LENOWISCO area has shifted gears and is concentrating on the next priority—housing. With much of the development "hardware" in place, more jobs available, and the educational tools at hand that can prepare men and women for those jobs, the next logical step, according to Robinette, is providing a more plentiful supply of quality housing. In the LENOWISCO area, as in the Appalachian Region, the priorities change, but all the pieces fit together to form a base for comprehensive long-term development. ■

Chapter 3

Transportation

WILLIAM BLANTON

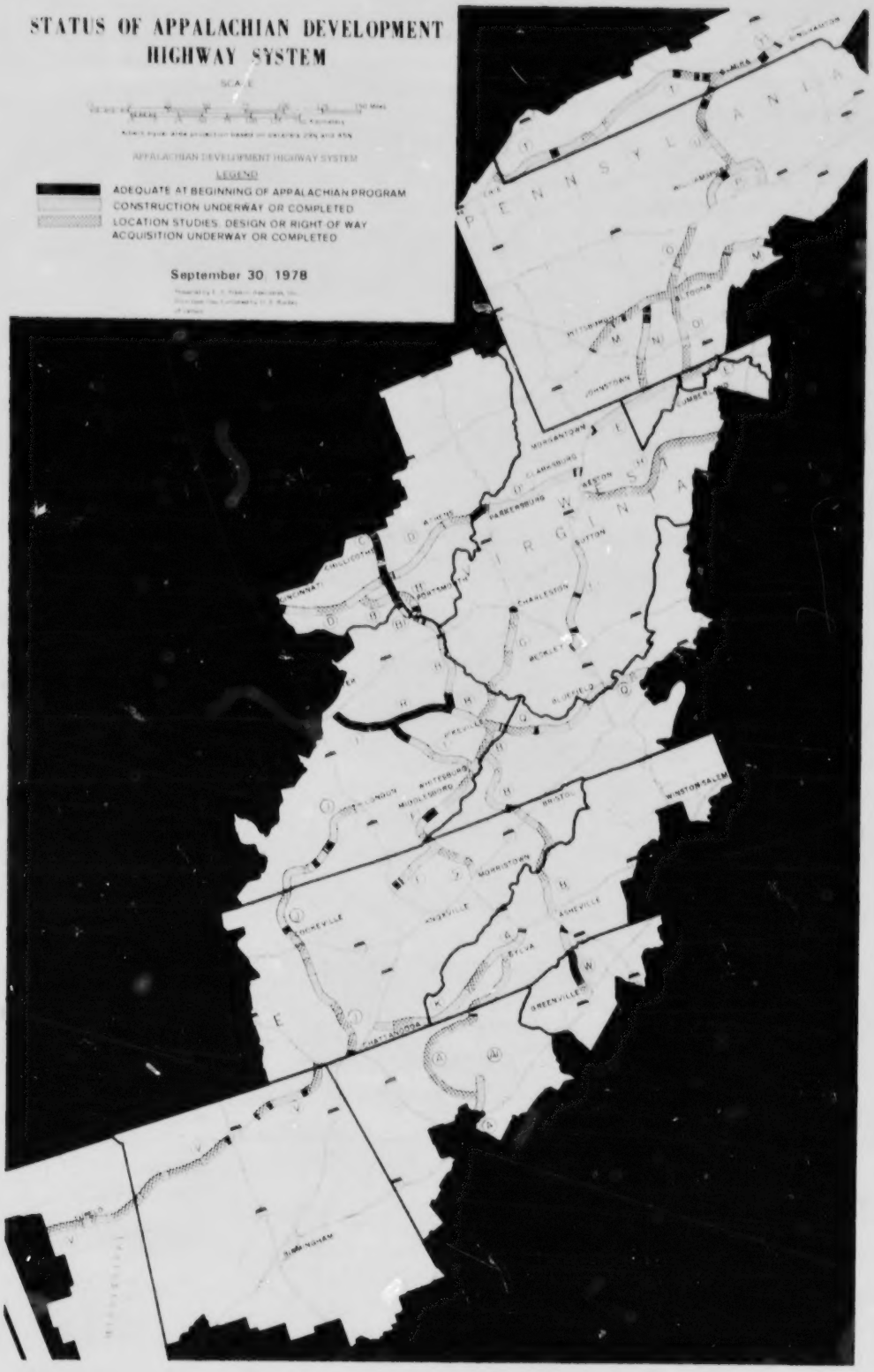
The central goal set for the Appalachian Regional Commission by Congress was to help the Region achieve "vigorous, self-sustaining growth." From the beginning, the Commission has believed that an adequate highway system was essential to attain this goal. In 1965 one of the chief hindrances to economic growth in the Region was its isolation, which limited access to national markets and made it difficult for Appalachians to move back and forth to jobs, schools and markets. The Appalachian development highways were designed, in conjunction with the Interstate system, to reduce this isolation. As additional spurs to economic development, the Commission has invested in other transportation improvements, funding access roads to industrial sites and public facilities, rural public transportation systems and studies on such topics as rail transportation and coal movement.

Table 1
Appalachian Development Highway System
Mileage and Financing

State	Total Mileage	Construction Required	Status as of September 30, 1978: Studies Completed or Under Way	Design Completed or Under Way	Right of Way Completed or Under Way	Construction Completed or Under Way*	Construction Completed**	Dollars Obligated thru 1978*** (in thousands)
Alabama	155.6	146.1	146.1	95.4	82.2	50.8	35.4	$ 27,718
Georgia	134.9	85.7	85.7	55.4	55.4	46.6	29.2	41,252
Kentucky	585.3	439.1	439.1	437.6	392.8	326.0	272.7	401,196***
Maryland	85.7	81.7	81.7	58.0	50.0	50.0	50.0	69,221
Mississippi	111.4	108.4	108.4	48.9	43.6	38.8	22.8	26,864***
New York	255.4	219.4	219.4	200.9	183.1	167.1	155.9	203,603***
North Carolina	206.5	205.4	205.4	169.8	159.3	150.0	112.4	119,856***
Ohio	293.5	201.6	201.6	177.6	150.0	119.0	101.0	97,444***
Pennsylvania	507.5	456.9	456.9	283.1	188.8	168.4	138.6	241,191
South Carolina	28.4	11.0	11.0	3.1	3.1	1.4	-0-	2,031***
Tennessee	342.3	331.9	331.9	223.0	194.6	189.8	173.1	208,643***
Virginia	201.8	191.3	191.3	157.9	157.4	146.7	134.2	105,234***
West Virginia	425.8	411.4	411.4	322.4	314.5	245.5	238.5	493,500***
Total	**3,334.1**	**2,889.9**	**2,889.9**	**2,233.1**	**1,974.8**	**1,700.1**	**1,463.8**	**$2,037,758**

*Includes 38 miles of prefinanced construction.
**Of the total completed mileage, 1,427.3 miles have been opened to traffic.
***Includes prefinanced amounts as follows:
Kentucky $23,927; Mississippi $14; New York $6,488; North Carolina $1,563; Ohio $2,771; South Carolina $669; Tennessee $5,599; Virginia $1,714; West Virginia $14,069.
Columns may not add because of rounding.

STATUS OF APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM

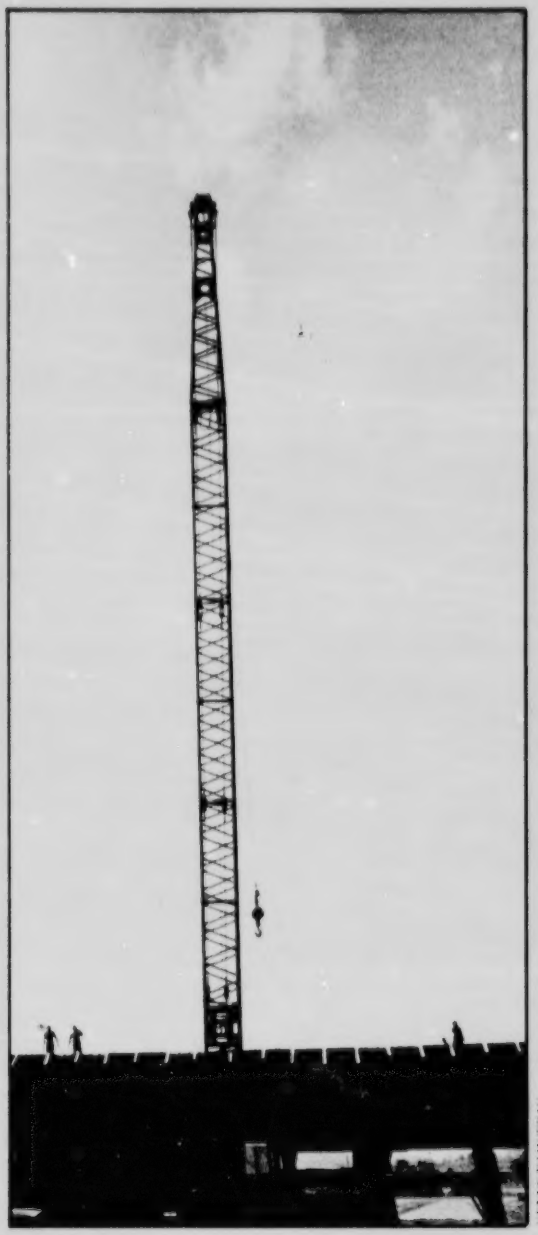


Appalachian Corridor Highway System

About 56 percent of the mileage eligible for construction on the Appalachian Development Highway System is now completed or under construction. An additional 106 miles of improved roadway were contracted for construction during 1978, bringing the total to 1,700 miles (see Table 1 on page 9 and the map opposite). Actual construction was completed on 1,464 miles, an increase of 76 miles during the year. Similar increases were made in engineering, design and right-of-way acquisition: an additional 32 miles in design and an additional 62 miles in right-of-way acquisition. At the end of the fiscal year, design had either been completed or undertaken on 2,233 miles of the 3,025 eligible miles, 74 percent of the total.*

During fiscal 1978, $191.6 million in federal funds was obligated for the corridor system, with the states prefinancing an additional $56.8 million, in comparison with $180 million in federal funds and state prefinancing of $39 million in fiscal 1977. In 1977 the Commission instigated a new allocation process under which it guarantees a base amount or allocation of funds (subject to appropriation) to each state for the funding year. In addition, a supplemental allocation is available above this base amount, provided that these and the base funds can be obligated during the funding year. If this supplemental allocation cannot be used, the funds then become available to other states which can use them before the end of the fiscal year. In 1977 and 1978 virtually all funds appropriated were utilized, which indicates that this new system is working well and encouraging the states to prefinance. Prefinancing (advancing by states of funds that will be repaid later from ARC highway allocations) permits the states to use allocation surpluses and advances the highway construction program in a time of rising costs by permitting the construction of more miles of highway for the limited federal funds.

Congress increased the total authorized miles from 2,900 to 3,205 on November 6, 1978 (Public Law 95-599).



During the year a number of milestones were passed on the Appalachian Development Highway System. Corridor L, a 70-mile highway extending from Sutton to Beckley, West Virginia, which includes the spectacular New River Bridge (completed in 1977), was opened to traffic, except for a two-mile section still under construction.

The portion of Corridor E from Cumberland, Maryland, to Morgantown, West Virginia, has also been completed, while the final two sections of Corridor I from Hazard to Whitesburg, Kentucky, are now under construction, with the remaining distance open to traffic.

Local Access Roads

Access roads, unlike development highways, are not designed as an interconnected system of roadways but rather are a series of short roads to supply access to specific sites and locations. Some 26 miles of access roads were completed during 1978, with an additional 91 new miles placed under construction. Construction is now completed on 579 miles of the 849 miles approved thus far for construction (see table on page 12). Federal obligations for all access roads built under this program now come to a total of $114.6 million, with state and local funds providing an additional $78.0 million.

Highway construction is under way near Morristown, Tennessee.

Rail Transportation

In 1978, the Commission helped two county industrial development agencies in New York State to purchase three rail lines scheduled for abandonment or service discontinuation. As a result of ARC support, the Steuben County line is currently being operated and managed under a year-to-year, negotiated contract with the industries it serves. ARC assistance also made it possible for Cattaraugus County to purchase two rail lines from Cattaraugus to South Dayton and from South Dayton to Gowanda, to preserve the right-of-way and prevent its being scrapped. The plan is eventually to link these two lines with the Cattaraugus-Salamanca line to form a short-line railroad to serve this area and thereby preserve jobs in the area.

Rural Transportation

During the year ARC, through its participating states, assisted in the support of three operating rural transportation systems in Pennsylvania, Tennessee and Georgia. These systems provided needed transportation for rural people traveling to work, to shopping and schools, and to medical and other social services.

Each system is designed to demonstrate innovative and replicable methods of supplying small bus and van transportation service to outlying areas. Another objective of ARC's rural transportation program is to find other means of support for these systems and thereby end the Commission's financial involvement. This objective was accomplished during the fiscal year in north central Pennsylvania, where a rural transportation system now operates successfully on self-generated local income derived on a contract basis from various agencies, with some assistance from the state of Pennsylvania.

Table 2
Appalachian Access Roads
Status as of September 30, 1978

State	Cumulative Financing (in thousands) Approved	Obligated	Miles Approved	Construction Completed or Under Way	Construction Completed
Alabama	$ 21,841	$ 20,400	218.7	194.5	149.2
Georgia	11,341	9,499	36.6	24.1	13.9
Kentucky	6,084	4,075	17.4	13.5	7.0
Maryland	3,312	2,149	8.4	5.9	5.9
Mississippi	21,531	17,884	166.2	116.7	93.3
New York	5,049	2,926	8.6	3.9	3.9
North Carolina	6,265	5,275	29.4	19.8	15.3
Ohio	5,966	4,694	42.5	36.4	36.2
Pennsylvania	19,086	12,838	105.7	85.5	82.8
South Carolina	14,431	14,431	114.7	98.5	91.1
Tennessee	11,484	10,012	58.3	43.0	43.0
Virginia	5,165	4,666	19.6	18.3	18.3
West Virginia	8,186	5,817	22.4	20.0	19.4
Total	**$139,741**	**$114,666**	**848.6**	**680.1**	**579.3**

Columns may not add because of rounding.

Coal Movement Study Results

In November 1977 ARC completed a study of the impact of coal hauling on the Region's roads, entitled "An Assessment of the Effects of Coal Movement on the Highways of the Appalachian Region." In January 1978 the U.S. Department of Transportation (DOT) released a national study of energy roads which concluded that the problem of building or rebuilding roads to haul coal was concentrated in the Appalachian Region and that a national program was needed to deal with the total problem.

As a result of these two studies, DOT initiated a more complete study of the need for and the costs of making the necessary repairs to coal haul roads. DOT, the Department of Energy, the Department of the Interior, the Office of Management and Budget and ARC are now discussing what shape a national program to do this should take. ■

a transportation project in FY 78

Good Things Come in Small Packages

Announcement of the completion of an ARC access road never seems to stir the public interest that the completion of a section of a sleek interstate or intercounty expressway does. But maybe it should. These short roads are the vital final threads in the Appalachian highway network that directly link together people using the development highways and the specific jobs, airports, schools and other points they are eager to reach.

In Habersham County, Georgia, for example, the lack of an adequate access road through the county's Airport Industrial Park threatened to seriously limit its industrial development potential. Companies interested in locating in an industrial park usually choose parks that have all the best features, including proximity to market centers, varied transportation opportunities, adequate electricity, gas, water, oil or other utilities and, no less importantly, a good intrapark roadway network. The original access road through the park (built in part with ARC funds) did not extend far enough to serve either the two new industrial plants that were building facilities there or the other areas in the park that were likely sites for coming industries. So, with a grant of $159,950 from ARC, plus funds from Georgia's Highway Department, the original access road was extended. It now connects the park—and the outside world—with the new industries, which together have brightened the area's employment picture by providing 200 new jobs. The new extension also opens up other sections of the park for future development.

This newly added section (nearly one mile long) is the third and final portion of the internal road system in the industrial park. ARC funded an initial 0.8-mile section, and a second, shorter section, 0.37 miles long, was constructed with Farmers Home Administration funds.

GEORGIA MOUNTAINS PLANNING AND DEVELOPMENT COMMISSION

The Habersham County Industrial Park's inner access road (in color above), built with ARC dollars, links industries in the park to each other and to the county airport.

In a letter to the Habersham County Commissioners, an official of Standard Telephone Company, one of the two companies served by the third and last segment, wrote in support of this segment:

"We would like to go on record as strongly endorsing the plan to extend the Airport Industrial Park road across the entire park area . . . this extension would open additional industrial site locations and would greatly enhance vehicle movement from the park to existing state roads and the forthcoming 365 connector between Gainesville and Cornelia . . ."

The same point could be made another way. How attractive would the park be to new industries if the road had not been completed? The Habersham County Industrial Development Authority, which owns or has an option on the 400 acres of industrial quality land in the park, believes that the complete access road is an important factor to the industries that have located there, and one of the chief reasons that the park already has 20 percent of its acreage in use. Not only does the road make general movement possible throughout the park, but it also allows employees ready access to parking lots and to the main highways that take them back to their homes.

It's only a little over two miles long all told, but that short distance counts for a lot in terms of encouraging development. ■

Chapter 4

Community Development and Housing

Growth in economic development in Appalachia is dependent in large measure upon what Appalachian communities can offer in the way of basic services, such as clean water, good sanitation, decent housing, recreation opportunities and efficient transportation. But in many parts of the Region these services are lacking. Five years ago, a consultant study estimated that it would take $7.2 billion to establish adequate sewerage, water, solid waste and parks and recreation facilities in the Region.

This figure did not include housing needs, which are also sizable. In 1970 more than a million Appalachian housing units were classified by the Bureau of the Census as deficient because they lacked plumbing or were overcrowded. Replacing these units, or adding to the housing stock to accommodate new growth, is unusually difficult and expensive because of the Region's terrain. Large, level, well-drained sites come at a premium. The costs of serving sites with basic facilities, such as water and sewerage, and of developing sites are high because of steep slopes, unstable land conditions, underlying rock and the distances which must be covered to extend access roads and facilities. Federal site development and housing standards,

KENNETH MURRAY

the shortage of mortgage credit and the absence of a substantial housing industry compound the problem.

The ARC community development and housing program is aimed at overcoming these deficiencies. In fiscal 1978 the program maintained its earlier commitment to alleviate the situation in three types of areas:

- Communities in the Appalachian coal fields where coal mining is bringing rapid increases in employment and population. Most of these communities could not provide adequate basic community facilities and housing before the national demand for coal increased. They have even greater difficulties today in the face of rapid population and employment growth.
- Rural communities which, because of their remoteness, lack the technical or financial resources to improve their standards of living without assistance.
- Areas undergoing fundamental changes in their local economies and population patterns. These include older urban settlements experiencing job losses, areas where new settlement patterns make it necessary to find cost-effective ways to design and deliver public services and rapidly growing small communities.

In addition to the continuing commitment to these communities, ARC's community development program gave priority to two other activities:

- Assistance to communities devastated by floods. This assistance, called the Central Appalachian Development Project, is being provided by a special staff located in the field (see page 17).
- Expanded direct technical assistance by Commission staff, particularly in housing and site development.

During the year, the Commission approved 242 housing and community development projects totaling $47.4 million. The types of projects approved are summarized in Table 3 opposite.

CHRISTOPHER KUPKA

Two types of Appalachian housing: (LEFT, ABOVE) a coal camp near Pineville, West Virginia, and (ABOVE) an apartment complex in Hornell, New York.

Table 3
Community Development Projects Approved in Fiscal 1978

(in thousands of dollars)

	Amount	Percent	No. of Projects
Water Systems and Combined Water-Sewer Systems	$22,437	47.3%	75
Sewage Systems	9,999	21.1	37
Low- and Moderate-Income Housing	6,260	13.2	84
Recreation and Tourism	2,166	4.6	16
Industrial Site Development	3,966	8.4	15
Community Improvement (including Airports)	2,134	4.5	10
Solid Waste Disposal Systems	476	1.0	5
Total	**$47,436**	**100.1%**	**242**

Water and Sewer

Water and sewer projects constituted the largest share of community development projects in FY 78—close to 70 percent of expenditures, reflecting the continued and substantial need for these basic facilities throughout the Region.

Housing

Housing accounted for more than 13 percent of expenditures and was the second largest component of the program. More than $6 million went to the support of state Appalachian housing programs, under way in nine states, as well as for technical assistance demonstrations.

The Appalachian housing programs are developed and administered through state housing agencies and provide technical assistance grants, planning loans and site development grants to public bodies and nonprofit sponsors of housing. The 1975 amendments to the Appalachian Regional Development Act permitted ARC to administer these loans and grants for Appalachian projects, and as a result the Appalachian housing program expanded greatly. ARC and state housing program efforts have helped increase housing activity and create a greater awareness of housing development obstacles.

Housing demonstrations, such as the Thomas Village project in Duffield, Virginia, described on page 8 are primarily intended to accelerate the production of housing in coal-mining areas that have severe housing shortages.

In FY 78 ARC also funded a study to determine the feasibility of creating a land bank in Central Appalachia. A study of housing innovations that have worked in the Region is being compiled into a reference book to be used throughout the Region.

Industrial Site Development

Industrial site development received more than 8 percent of FY 78 community development funds, with $3.9 million in grants awarded to industrial park projects in nine Appalachian states. Since the purpose of funding industrial parks is to increase local employment opportunities, this program is described in greater detail in the chapter dealing with enterprise development (page 20).

(RIGHT) The Humboldt Industrial Park in Hazelton, Pennsylvania, is one of the many assisted with ARC funds.

Technical Assistance

During the year, ARC provided direct technical assistance in numerous areas, including solar housing demonstrations. The U.S. Department of Agriculture has developed and tested a low-cost solar-heated rural house design. ARC compiled information on construction , costs and performance of this "solar attic" design and contacted Appalachian states with a high heating load for builder referrals. Subsequently, ARC worked with four builders to prepare applications to the Department of Housing and Urban Development (HUD) for solar installation grants under the residential solar demonstration program. All four builders were awarded grants. As a result:

- Three houses were finished in Kentucky; three in Pennsylvania and one in Tennessee were contracted for and scheduled to begin during the following fiscal year.
- ARC provided funds to furnish a full set of house plans, materials, a specification list and a construction manual.
- The Farmers Home Administration is considering financing the solar-attic house under their regular single-family program.

During the year, ARC offered technical assistance to the state of West Virginia for a conference on housing and community facilities called by Governor John D. Rockefeller IV and later helped to develop state housing strategies to meet housing needs arising from increased employment and population in the coal fields, flood damage and the high incidence of substandard housing.

ARC also worked with the state of Kentucky to identify site development problems for housing and industry in eastern Kentucky by designing and testing a survey instrument to inventory housing sites, defining obstacles being encountered by housing sponsors in Appalachian Kentucky and establishing assistance needs of sponsors.

Special Community Needs

The community development program also funds special transportation projects, like airports and rail spurs, recreation and tourism projects and libraries, and special community improvements. ■

RICHARD BLOOM

(RIGHT) This solar-heated home in Somerset, Kentucky, is being built by Lovins Construction Company with ARC technical assistance.

a community development project in FY 78

Responding to Flood Disasters

Many parts of Central Appalachia suffered severe flooding in April 1977. When 45 contiguous counties in West Virginia, Kentucky, Virginia and Tennessee were declared disaster areas by President Carter, federal assistance in the area became available. Following the spring floods, ARC joined with West Virginia's Office of Economic and Community Development in outlining a long-range program that includes both flood recovery and prevention provisions. In June 1977, Governors John D. Rockefeller IV of West Virginia, Julian M. Carroll of Kentucky, Mills E. Godwin of Virginia and Ray Blanton of Tennessee endorsed the program and gave their approval to the formation of a special field staff charged with fulfilling the program's goals.

Located in Pikeville, Kentucky, the Central Appalachian Development Project (the flood recovery program's official title) focuses on seven specific concerns: (1) developing a flood warning system in conjunction with the National Oceanic and Atmospheric Administration (NOAA), (2) assisting flood-prone communities to qualify and remain qualified for flood insurance, (3) assisting individual communities with flood-related problems, (4) improving overall disaster preparedness, (5) relocating temporary housing provided by HUD off the floodplain, (6) locating and developing flood-free land to provide an alternative to the development of sites in congested, flood-prone areas and (7) establishing a comprehensive community flood strategy program.

According to project director Keith Kelley, significant progress has already been made in two of these areas: the flood warning system and temporary housing relocation.

"We're engaged in a pilot program with NOAA that is installing a model flood warning system to twelve counties in Kentucky, West Virginia and Virginia," Kelley explains. "With it, we hope to eliminate deaths caused by flash floods, reduce flood damage by 20 percent and help keep down the degree of disruption to commerce and other human activity. This warning program will be extended to the remaining 23 project counties in the next two years."

The foundation of the warning system is a network of volunteer rainfall and stream observers who live in the flood-prone areas. The observers use rain gauges to measure the amount of precipitation that falls into the various rivers and creeks that are known threats. A number of automatic gauges are also employed for the same purpose. The data is immediately reported to and evaluated by the National Weather Service, after which recommendations are promptly made to specific flood-prone localities. Next, the public must be informed over radio and television. In certain densely

THE COURIER-JOURNAL AND THE LOUISVILLE TIMES

(RIGHT) The Levisa Fork of the Big Sandy River overflowed its banks and caused serious flooding in Pikeville, Kentucky, in April 1977.

populated communities, the warning system also includes the use of special flash flood sirens.

And since mobile homes are especially vulnerable to flood damage, the Central Appalachian Development Project has been working to relocate mobile homes that have been placed in floodplain locations. Many of the mobile homes in the most immediate danger from flash floods are those that were provided by HUD as temporary housing for victims of the 1977 flood disaster. Through the project, HUD allocated $2 million to Kentucky and West Virginia for the purpose of developing and/or improving existing sites for these mobile homes.

"HUD gave people the option of buying the mobile homes which the agency provided on a rental basis after the April 1977 disaster," says Kelley. "Many people chose to do so, and it is this group that we're particularly interested in helping. We've found several areas—flood-free areas—on which to place the mobile units."

Eight Kentucky landowners were assisted by the project in obtaining licenses to operate certain sites as commercial mobile home parks. These parks will provide safe, above-floodplain levels, sites for 131 families who were victims of the flood. ■

This mobile home is located on land developed under the Central Appalachian Development Project. Its owner's original home was destroyed in the 1977 flood.

a housing project in FY 78

Filling In the Gap

Derived from the Greek word koinos (common), koinonia refers to a community of persons bound together by love and concern for one another and for those outside the community. In Lenoir, North Carolina, three Presbyterian churches are sponsoring the construction of a housing complex and naming it Koinonia in the hope that those who live there will develop the attitudes and habits the name suggests. When completed in August 1979, Koinonia will contain 84 apartment units for some of the area's neediest elderly and handicapped citizens.

ARC has assisted the Koinonia project in three basic ways: with a $13,000 project planning loan used to pay a portion of the architect's design fees, with a $73,000 site development grant and with a grant which supplies the salary of Barbara Baker, the housing specialist at the Western Piedmont Council of Governments (an LDD). Ms. Baker is responsible for making grant and loan applications and carrying out the many follow-through activities required before projects like Koinonia can be realized. (The North Carolina Department of Natural Resources and Community Development has trained and placed six housing specialists in the state's 31 Appalachian counties to stimulate the construction of housing for low- and moderate-income families).

"I wrote the original project application for the First Presbyterian Church of Lenoir in 1975 and submitted it to the Department of Housing and Urban Development," Ms. Baker explains. "Later we received a notice of fund reservation from HUD—for $2,492,000—but were told that the money would not be forthcoming unless we could come up with some additional funds. At that time the project seemed doomed. Then the church donated some

money and land to the project, and ARC supplied us with a planning loan to develop the proposal to the final commitment stage. The ARC grant enabled us to close the HUD loan deal on December 7, 1977, and construction began the following month. The apartments have just been put under roof, but already we have a list of 145 people who would like to move in when the project's completed next August."

Each apartment will contain a living room, dining area, kitchen, one bedroom and bath and a large storage area. Some tenants will have low enough incomes to qualify for rental subsidies under Section 8 of the Housing and Community Development Act of 1974; these tenants will not have to pay more than 25 percent of their incomes for rent. The HUD program will supply the additional sums needed to produce the rents agreed upon for the project.

An attractive bonus for Koinonia's new residents will be the availability of low-cost meals through the Community Kitchen, another project sponsored by the Presbyterian Church and funded with federal dollars. Located directly across the street from the apartment complex, the kitchen serves as the area's Meals on Wheels headquarters.

"Church members donated the property and the funds for construction of the kitchen," Barbara Baker says, "and the government, under Title VII of the Office of the Aging, provides the meal service. It will be a great boon to many of the project's renters, I'm sure."

This project, like many others in hilly Appalachia, encountered unusual construction costs because of topographic problems at the site. In situations like these, ARC's ability to fill in gaps between federal funding and local sources of financial support spells the difference between the project's being built or not. ■

DAVE RUFTY

DAVE RUFTY

DAVE RUFTY

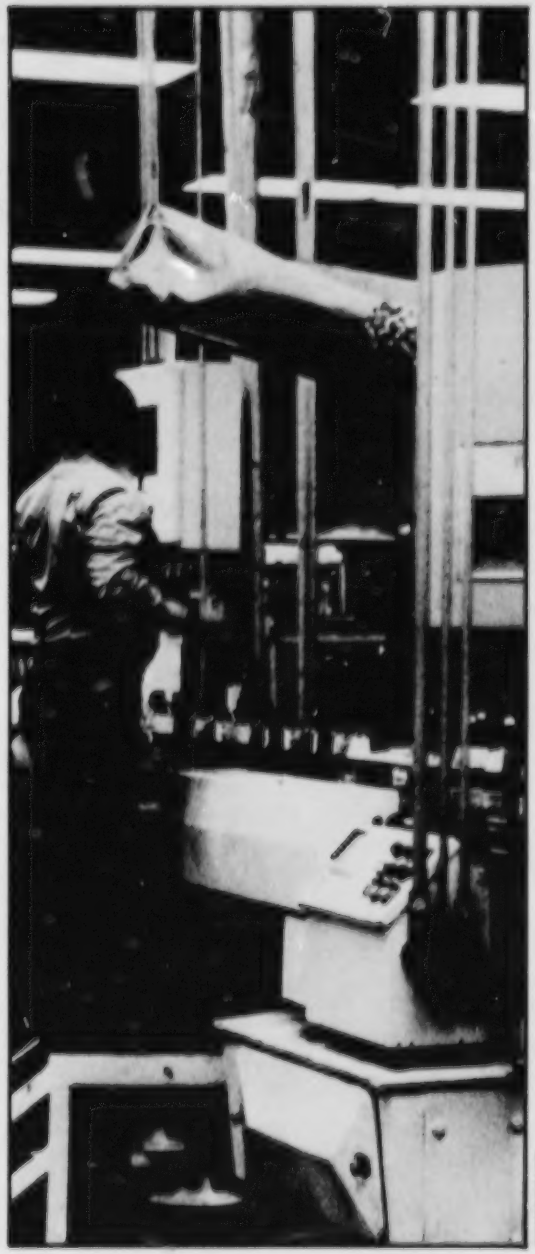
(ABOVE) The Koinonia apartments will look like this when construction is completed. (FAR LEFT) Construction is going according to schedule and should be finished in the fall of 1979. (LEFT) The Reverend Parker T. Williamson of the First Presbyterian Church in Lenoir discusses the plans with housing consultant Barbara Baker.

Chapter 5

Enterprise Development

The purpose of the enterprise development program, in its fourth year of operation in FY 78, is to help the Region produce more jobs, in the process generating a more diversified free-enterprise economy. The program at first consisted of technical assistance and training projects. In the 1975 amendments to the Appalachian Regional Development Act, Congress mandated that ARC establish a program to "develop the Region's energy resources" and authorized the use of up to $3 million per year in ARC funds to assist energy-related enterprise development. Largely in response to this, the Commission greatly expanded the enterprise development program in early 1977, spelling out the criteria by which projects could be selected for funding under the program and specifically permitting the funding of enterprise development projects in some way tied to the production or conservation of energy. It also provided that states' annual development plans should describe how the states will promote and plan for enterprise development.

In fiscal 1978 ARC funded 21 enterprise development projects in five broad categories for a total of $4.75 million.



ROBERT DYER

Research and Planning Projects

Among the varied studies funded in this category are analyses of enterprise development potentials; studies of market feasibility and site selection for industrial and commercial enterprises; planning, engineering and development studies for industrial and commercial sites; labor market studies; development studies on new products or new ventures; and studies of sites near highways where enterprises might be located. One research project consists of an $80,000 ARC grant to investigate the feasibility of converting wood waste and other biomass materials from local forests into energy to supply firms in a 200-acre industrial park in McKean County, Pennsylvania, which has been and continues to be threatened by natural gas curtailment.

Technical Assistance and Training

Projects of this type have the general purpose of providing trained professionals at the local and state level who can implement programs that will help to overcome disadvantages or difficulties experienced by the private sector in the Region. In a typical project, New York's Southern Tier local development district received a $112,720 grant that will (1) enable it to hire a staff to establish an enterprise development program to assist various local organizations involved in industrial develop-

(LEFT) A Coca Cola bottling operation in the Richards Road Industrial Park in Zanesville, Ohio.

(RIGHT) Members of Appalshop's Roadside Theater perform in the multimedia production "Red Fox/Second Hanging."

ment and (2) provide funds directly to the district's member counties for programs to complement the LDD program.

Projects Related to the Production or Conservation of Energy

In the energy crunch of the 70s, ARC is funding a number of projects designed to help the Region expand and develop its energy resources. In Pike County, Kentucky, for example, the Commission and the Department of Energy are engaged in a demonstration project to install, operate and test a system of gasification of low-Btu coal for a development. The gasifier is expected to be the primary source of energy for a fire station, an intermediate health care unit, a community building, multiunit dwellings and several gas-using industries in the development.

Arts and Crafts

ARC provided $2.4 million in FY 78 to help fund the construction of the Joe L. Evins Appalachian Center for Crafts and a headquarters for Appalshop, Inc. The craft center is being constructed in Smithville, Tennessee, to serve craftsmen, educators, industry and others through training, promotion, preservation, perfection and marketing of Appalachian crafts, with emphasis on quality and design. The Appalshop headquarters will establish a permanent base of operations for the multimedia production company in Letcher County, Kentucky. Appalshop has already produced a long list of films, dramatic shows and records on Appalachian subjects. ■

an enterprise development project in FY 78

An Enterprising Development: Industrial Incubators

It was David Treichler's idea. He is vice president of industrial development for the Broome County (New York) Chamber of Commerce and had learned that a similar effort was successfully under way in nearby Batavia.

"Basically," explains Treichler, "what we're doing is taking a large, unused building and rehabilitating it so that it can be used by many small beginning businesses as a place in which to get started. In effect, our facility will serve as an incubator for the fledgling industries."

The underlying purpose for the Broome County industrial incubator project is the creation of more jobs. Over the past several years, some major plants in the area have either closed down completely or cut their work forces dramatically, leaving many people unemployed. The incubator project's promoters figured that providing starting industries with low-cost, flexible manufacturing space—in this case a 40,000-square-foot, two-story, brick-and-steel building—and quality technical assistance would significantly reduce start-up costs and would give new businesses a head start. Later, when an individual industry was over the initial hurdles and ready to function on its own, it would move out into the community, where the promoters hoped it would become a permanent source of jobs for area workers.

ARC assisted the project with a $100,000 grant, which, in conjunction with other federal assistance administered through the Economic Development Administration, provided the necessary funding for renovation of the building. The huge facility was donated to the project sponsor, the Broome County Industrial Development Agency, by the Endicott-Johnson Corporation.

One of the first industries to inhabit the incubator facility will be a small operation that plans to make flexible plastic cables for bicycle speedometers. The new company has three employees and will set up its shop in a 1,000-foot space within the project facility.

"The building was once a bowling alley," Treichler says. "We're in the renovation process now and will be ready for our first industries by April 1979. It's quite possible that the entire space will be occupied by the opening date."

Preparation of the incubator's interior depends on specifically what each new business needs. One may need more space than others; another may need more electrical outlets—but less water. Rental costs cover space, heat and hot water. Other utilities—electricity, gas and telephone, for example—are paid by the individual enterprises.

Technical assistance is as key to the success of the incubator project as is the provision of industrial space. Representatives of large firms in the area, such as IBM and General Electric, sit on the advisory board. They will offer legal assistance and advice on marketing techniques, along with whatever other assistance the new businesses may request. A coordinator will keep in daily contact with the fledgling entrepreneurs and discuss their problems with the board at its monthly meeting. This expert help is expected to make the crucial difference for many of the beginning enterprises between failure and success.

(LEFT) The interior of the industrial incubator is being prepared for a small business, while the exterior (ABOVE) advertises the facility's main purpose: new jobs.

Chapter 6

Energy, Environment and Natural Resources

From the time it was started, in 1965, the ARC energy, environment and natural resources program was based on recognition that the Region's resources, particularly coal, must be developed for national use in ways that improve the quality of life for Appalachians; while it was essential to provide more jobs, it was equally essential to do a better job of protecting the environment than had been done in the past. Early program efforts included mine area restoration activities; demonstration projects for rural solid waste disposal, junk car removal and watershed development; and studies on acid mine drainage, coal and water resources and policy development.

In 1975, with increasing national attention focusing on energy costs and the environment, Congress defined the program's goal more sharply in that year's amendments to the Appalachian Regional Development Act. The Commission was charged with providing a framework for coordinating federal, state and local efforts to meet the special needs and problems caused by national energy policies and planning to maximize social and economic benefits and minimize social and environmental costs that result from energy-related growth and change in the Region.

In fiscal 1978, the Commission approved the expenditure of more than $6 million for more than 40 projects in energy, environment and natural resources.

Energy

The Commission's increasing attention to energy was reflected by the creation of an energy policy guidance council, comprised of representatives from all 13 Appalachian states, to advise it on energy program initiatives. The Commission made $1 million available for projects recommended by the council, which met for the first time in March 1978.

Projects undertaken by the Commission in the energy area were concentrated in the fields of coal production, marketing and regulations. Coal-production projects undertaken included:

- three training projects aimed at improving labor-management relations at mine sites by teaching how to improve communications and grievance settlement
- expediting of federal assistance to energy-impacted areas by developing baseline data and guidelines for states to use in their applications for assistance.

Coal-regulation projects included:

- technical assistance to states to develop plans for reclamation of abandoned mines, with the actual reclamation to be funded from fees imposed on coal producers by federal law
- investigation of the anticipated effects of new air-quality standards on cost and type of coal usable by power plants and on marketability of coal.

The coal-marketing project funded is a study of the feasibility of establishing coal-producer cooperatives to improve marketing for small producers.

In addition, the Commission funded two wood-for-energy projects, a project to identify and promote commercialization of new energy technologies and three satellite imagery projects concerned with natural gas.

ARC also funded two demonstration coal-gasification plants in Kentucky (see page 21) and Pennsylvania and assessments of the feasibility of two more, in Maryland and Pennsylvania.

Mine Area Restoration

Mine area restoration efforts accounted for the majority of ARC's energy, environment and natural resource expenditures in fiscal 1978. More than $3.8 million was approved to stabilize mine surfaces, extinguish underground and outcrop mine fires, seal abandoned oil and gas wells, and reclaim surface mine areas on public lands.

The Commission provided technical assistance to states seeking additional federal funds for mine reclamation or restoration projects and worked with the Office of Surface Mining (OSM) in writing rules and regulations for abandoned and active mine land programs. OSM provided $12 million for 46 programs throughout the nation in 1978, 42 of which were in Appalachia.

ARC and OSM also worked together to develop a model plan to serve as a guide for the development of individual state plans to reclaim abandoned mine lands. OSM provided funds for ARC to hire a consultant to assist in the development of the model plan. The Commission made funds available to the eight Appalachian coal-producing states to encourage their participation in the development of this model plan.

Research

The Commission's energy, environment and natural resources program also funded and provided supervision for a wide variety of research projects. These projects include studies of natural hazards, land stabilization, feasibility of obtaining hydroelectric power from small dams, resource recovery from solid waste and the use of solid waste for energy.

Other Commission studies looked at liquid and solid flue gas scrubbing, gasification, energy conservation, stress on communities due to increased energy production and alternative fuel sources such as waste wood and solar energy.

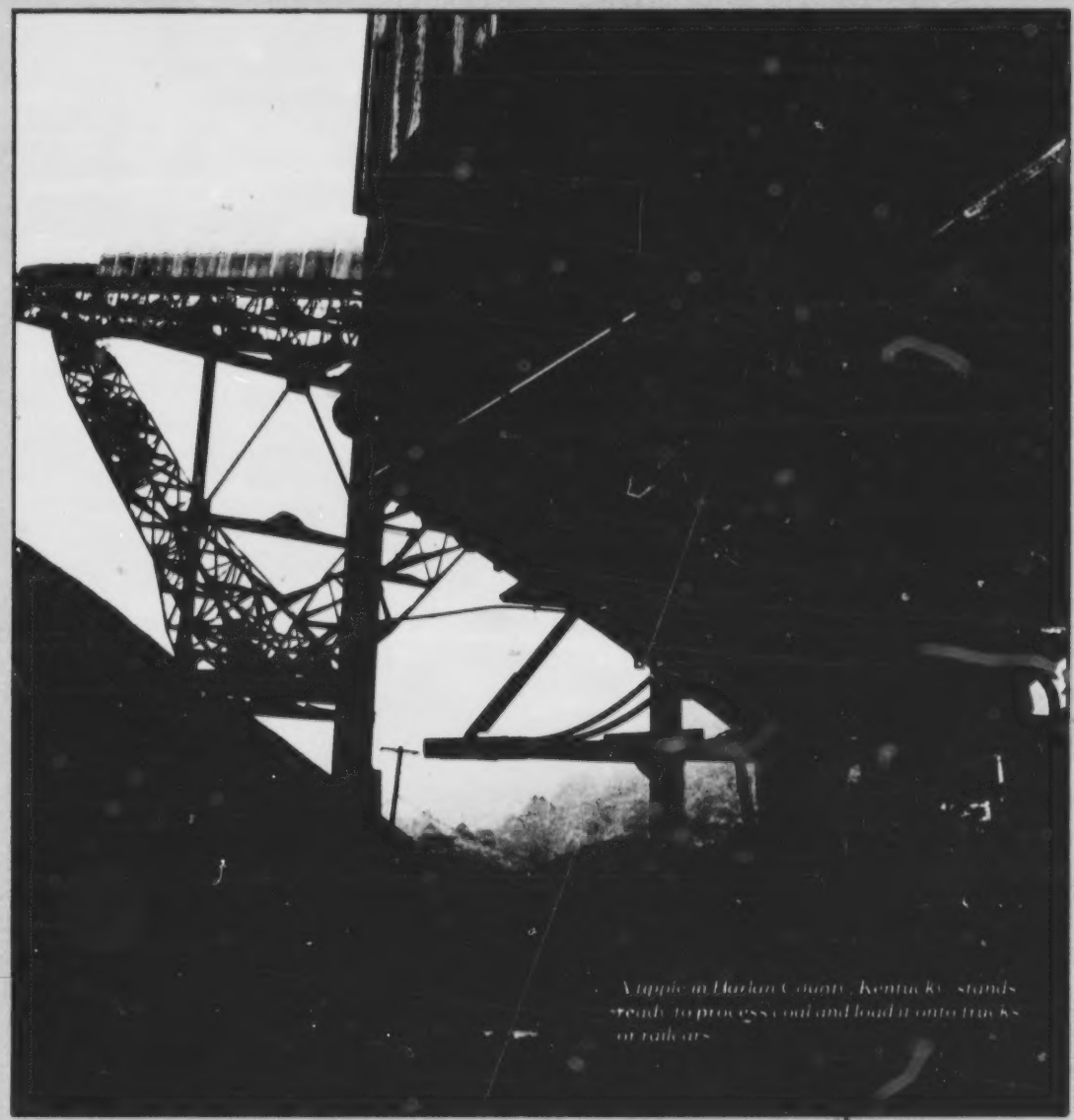
During the fiscal year the Commission worked with the Environmental Protection Agency to initiate a study to compile a land-use matrix and to study general problems of institutional management and funding. ARC and EPA jointly sponsored a regional technology assessment to anticipate the economic, social and environmental issues that would arise because of energy resource development in the Region.

Coal Productivity Seminars

In the spring of 1978, ARC launched a series of eleven seminars to identify opportunities for action by the President's Commission on Coal, due to be established that fall. At the invitation of ARC, spokespersons for labor, the coal industry, academic and governmental institutions and research concerns convened to discuss coal-productivity-related issues.

During the seminars, panelists examined mining output, labor-management relations, governmental regulations, coal-related health issues and community life in the coal fields. Later sessions concentrated on more specific aspects of these issues, such as the state of miner training, alternatives to coal haul roads, prospects for metallurgical coal markets, industrial coal conversion and land acquisition for housing in Central Appalachia.

A formal report was prepared by ARC to be presented to the President's Commission on Coal in fiscal 1979.



A tipple in Harlan County, Kentucky stands ready to process coal and load it onto trucks or railcars.

TOMMY NOONAN

an energy project in FY 78

Planning for a Coal Boom

Besides the boom/bust syndrome dreaded by Appalachia's coal-producing areas, another phenomenon causes serious problems for many communities: the boom itself. Areas like Wayne County, West Virginia, need additional employment, but they do not have the capability of adequately sustaining rapid growth. Many new jobs mean many new workers in the county, and the many new workers need good housing, highways, schools and services.

The Wayne County energy impact project, in part sponsored by the Appalachian Regional Commission, was initiated in late 1977 to examine the social and economic changes that the opening of two new coal mines (one in Wayne County and another just over the border in Lincoln County) will have on the area's 40,000 citizens. The project study's primary objective is to assist county and state officials to formulate a workable plan for meeting the needs of a coal-mining work force that will leap from 254 in 1977 to 1,600 mine workers when the new mines open. It will also provide a framework for evaluating similar coal mine expansions in other West Virginia counties and communities, as well as in other areas around the nation faced with similar expectations of growth.

According to the report, approximately 3,000 new jobs will be created in Wayne County by the mid 80s as a result of the new mine openings. One study shows that the public services and utilities most affected will be roads—especially those used by miners to commute to and from the mines—water and sewers in the towns closest to the mine sites, and schools, which will need additional teachers.

Project analysts sought and were given a good degree of local support. Wayne County officials gladly welcomed the prospect of new mining jobs, but they were unsure about the county's ability to serve properly the increased population that the jobs would create. Because of their concern, the officials appealed to the state's Office of Economic and Community Development, which responded by securing ARC grant support for the impact study and by turning to the expertise of the U.S. Department of Energy to write the study. In return, county officials gave the study their full support and encouraged local people to participate in it as well.

"Because the people of Wayne County continually expressed an interest in the possible social and economic ramifications of the new mines," reads the report, "public meetings were held in conjunction with the release of interim reports . . . the results are a more knowledgeable and interested public in Wayne County and a more accurate and usable report . . ."

The impact study concludes its findings about Wayne County's present status with a series of recommendations for the future. The overall forecast for the county appears bright since the

The towers are storage silos for the new deep coal mines located in Wayne County, West Virginia.

projected increase in population will not be too large, nor will it occur too quickly. The main recommendation is for a change in the present countywide system of distributing coal severance tax receipts. If the current allocation formula is changed or county grants are provided to specific municipalities, the communities that will experience the greatest population influx will get enough money to develop new or improve existing support services.

Perhaps the impact study will not supply all of the answers on how to handle the impact of expanding coal production, but Wayne County officials feel that they can now plan for the county's needs and guide the use of public funds with greater confidence. ■

Efforts to control the deep mine fire near Centralia, Pennsylvania, have been under way for more than ten years (see story opposite).

CAROL KLINE

an environmental project in FY 78

Putting Out an Underground Blaze

It is not uncommon to see smoldering, noxious fires burning in coal-mining communities, particularly in coal-producing areas of Appalachia, where many older abandoned deep mines and refuse banks exist. These mine fires, most of which started accidentally or by spontaneous combustion, are not only destroying a valuable natural resource, but also causing a number of problems, such as ground water pollution, emission of noxious fumes and poisonous gases such as carbon monoxide, and eventually surface subsidence. Mine fires may go unnoticed and burn for decades if they are located in remote areas; however, if they are located near or beneath a metropolitan area, the problem is immediately noticeable and more dangerous.

Mine fires are controlled by several different methods: exclusion of oxygen by covering with a clay material forming a blanketing effect, quenching with water, excavation of combustion materials or insertion of a noncombustible substance (such as fly ash) in the path of the fire to contain it. Normal municipal firefighting equipment cannot handle tasks like these, which require expensive earth-moving equipment such as draglines and power shovels. One of the biggest problems in fighting an underground mine fire is to determine the exact location and boundaries of the fire.

Near the town of Centralia, Pennsylvania, a deep mine fire is burning out of control. First discovered in the Centralia disposal dump in May 1962, it had spread enough by August to force the Pennsylvania Department of Mines and Mineral Industries to close 23 deep mines jeopardized by the fire. Projects to extinguish the fire in August and again in November of 1962 both failed because not enough funds were available to do the job.

In June 1965, Pennsylvania requested Appalachian Regional Commission (ARC) funds to control the spread of the fire to attempt to keep it from burning under the borough of Centralia, where 1,165 people live. The final work on this project was completed in February 1974. In addition to cleaning strip-mining debris from the highwall of the coal-stripping pit on the surface and stripping some coal, barriers, each 50 feet thick, were placed around the fire in the mine. To accomplish this, the Bureau of Mines used pneumatic injection of dry fly ash forming the barriers, a method of injection that leaves cavities or empty spaces between the fly ash and the roof of the mine where hot gases from the burning sides of the barrier can pass through and into the roof rock of the mine. If the roof rock contains some carboniferous material, the rock may burn; if subsidence has taken place, this causes additional void spaces in the roof of the mine, which tends to encourage burning. The Bureau of Mines believes this is what happened at Centralia, that hot gases penetrated the void space above the barrier and caused the coal pillars on the opposite side of the barrier to burn.

In 1978, in order to protect the citizens of Centralia, ARC approved $400,000 to start a drilling program to determine the extent of the fire. The Bureau of Mines and the state have now determined that the only remaining way to control the spreading of the Centralia mine fire and save much of the borough of Centralia is to install an airtight noncombustible barrier. The barrier, which will be 1,000 feet thick, will be formed from the surface by drilling a series of holes along the periphery of the fire. A slurry of fly ash and water will then be pumped into the holes. The wet slurry will more completely fill the voids of the mine. After the fly ash barrier is in place, the same injection holes will be used to inject under pressure a grout mixture, made up of fly ash, cement and water, to fill any voids that remain above the coal seam. By completely filling the void spaces of the mine and placing this 1,000-foot barrier across the path of the fire, the Bureau of Mines hopes to save the borough.

Control of the Centralia mine fire will cost between $6 and $8 million; it will probably take two to two and a half years before all the holes have been filled and the barrier has done the job expected of it. The Office of Surface Mining is expected to provide the bulk of the firefighting funds from coal severance fees.

While the Centralia project is under way, a group of homes nearest to the fire have had meters installed in their basements to register the amount of carbon monoxide in the atmosphere and sound an alarm if there is enough gas present to threaten the occupants. According to the local Bureau of Mines representative, the meters are not now recording any dangerous levels of gas. But, he is quick to add, this merely means that the carbon monoxide is escaping through fissures in other places.

The meters offer a slight measure of peace of mind for Centralia's residents, most of whom have more or less learned to live with the furnace beneath them. But until the mine fire has been permanently contained, the specter of losing their homes, and perhaps their lives, is a constant companion. ■

Chapter 7

Human Development

Since its inception, the Appalachian Regional Commission has recognized the importance of providing health, education and child care services as an integral part of fostering the Region's economic growth: a healthy, skilled work force is essential to economic development. But in Appalachia providing the services that will lead to such a work force is both difficult and expensive. The Region's mountainous terrain and the resultant isolation of many of its residents makes service delivery costly. The small tax base of many Appalachian communities aggravates the problem of meeting these costs.

In the 13 years of its existence, the Commission has done much to raise the level of health, child care and development and vocational education facilities and services. The Region still has a long way to go, however, before Appalachians will have access to the same level of human services that people in other parts of the nation enjoy. Persistent human development problems include a shortage of doctors, a high infant mortality rate, malnutrition, and a high rate of illiteracy.

The Commission's initial strategy was to emphasize the construction and equipping of facilities, but once most of the necessary buildings were in place, emphasis shifted toward the delivery

of services to people. In an effort to make the best use of Appalachia's limited resources, the Commission has always sought solutions particularly suited to the unique characteristics of the Region. It has also made every effort to expand the use of the new and already existing facilities so that they may serve more than one purpose.

In this fiscal year, the Commission began to focus attention on a new challenge: sustaining the recent years of progress by seeing that today's young Appalachians have the health, the education, the skills and the desire to take full advantage of a program of economic development. To obtain the most knowledgeable suggestions as to how this could be accomplished, the Commission began preparations for a three-day November conference, to be chaired by the states' cochairman, Governor James B. Hunt, Jr., of North Carolina. Experts in child care and development, health and education were invited to come together to examine the problems of the next generation of Appalachians. Their recommendations will be used to help determine future ARC policies in the delivery of human service programs.

Health

The Commission's health program began with the funding of multicounty demonstration projects and comprehensive health planning. From the early emphasis on constructing, renovating and equipping health facilities, the program evolved into one oriented toward delivering primary health care, particularly to rural, medically underserved areas of the Region. Since the passage of Health Systems Agency (HSA) legislation, most of the ARC-funded demonstration councils have been absorbed into HSAs.

Primary Care

Primary care, the delivery of basic, general health services to the entire family, continues to be the major focus of the Commission's health program because the Commission's research indicates that this is the area of greatest need. Primary medical and dental care projects represented 43 percent of all projects funded during the fiscal year (see Table 4 on page 29 for the numbers and types of projects funded). Appalachia—and especially the relatively isolated rural areas in Central Appalachia—still is much more poorly supplied with physicians than the rest of the nation and has higher infant mortality rates. At the same time, the Commission is increasing the amount of attention it gives to preventive health, cost containment and environmental health.

As a result of devastating floods in the spring of 1977 and a long coal strike in the 1977-78 winter, a number of health clinics and hospitals in Central Appalachia reached the point of fiscal crisis. The Commission responded to this situation by providing emergency financial support to the troubled hospitals and primary care programs and by using its funds to leverage additional assistance from other federal agencies. This help managed to keep the facilities open and thereby assure that health services in these parts of the Region could be maintained.

Table 4
Health Projects Approved in Fiscal 1978
(in thousands of dollars)

	New		Continued		Total	
	No. of Projects	Amount	No. of Projects	Amount	No. of Projects	Amount
Primary Medical and Dental Care	41	$5,204	60	$4,981	101	$10,185
Disease Prevention	14	1,078	11	693	25	1,771
Manpower Development	2	209	12	890	14	1,099
Planning, Administration and Technical Assistance	4	223	18	1,014	22	1,237
Emergency Medical Services	8	1,592	7	660	15	2,253
Mental Health, Retardation and Rehabilitation	9	1,632	8	380	17	2,012
Hospital Facilities and Operations	18	4,804	1	203	19	5,007
Total	**96**	**$14,742**	**117**	**$8,821**	**213**	**$23,563**

Columns may not add because of rounding.

The Rural Health Clinics Act was signed into law early in the fiscal year. The legislation changes Medicare and Medicaid regulations so that clinics can be reimbursed for a physician extender's services performed under a physician's direction, whether or not the physician is present in the clinic. By the end of fiscal 1978, 259 Appalachian clinics were certified under the new certification regulations, drawn up with Commission participation. While the new funding regulations were being prepared, ARC grant support continued to help clinics pay the cost of physician extenders' services.

Monitoring Process

A new project application and monitoring format was in its first full year of use in Georgia, Kentucky, Maryland, North Carolina, Ohio, South Carolina, Tennessee and West Virginia. Developed by ARC staff and consultants, the format condenses the application procedure, organizes information in an understandable order and enables states and ARC health staff to be more aware of structural and performance problems in health projects. Project applicants are required by the format to define their goals and establish concrete objectives. The format makes project performance clearly measurable by criteria established by project staffs. When a problem is identified, the state or ARC can provide technical assistance to help solve the problem and, as might be expected, the new format has created a larger demand for technical assistance.

Medical Indigency

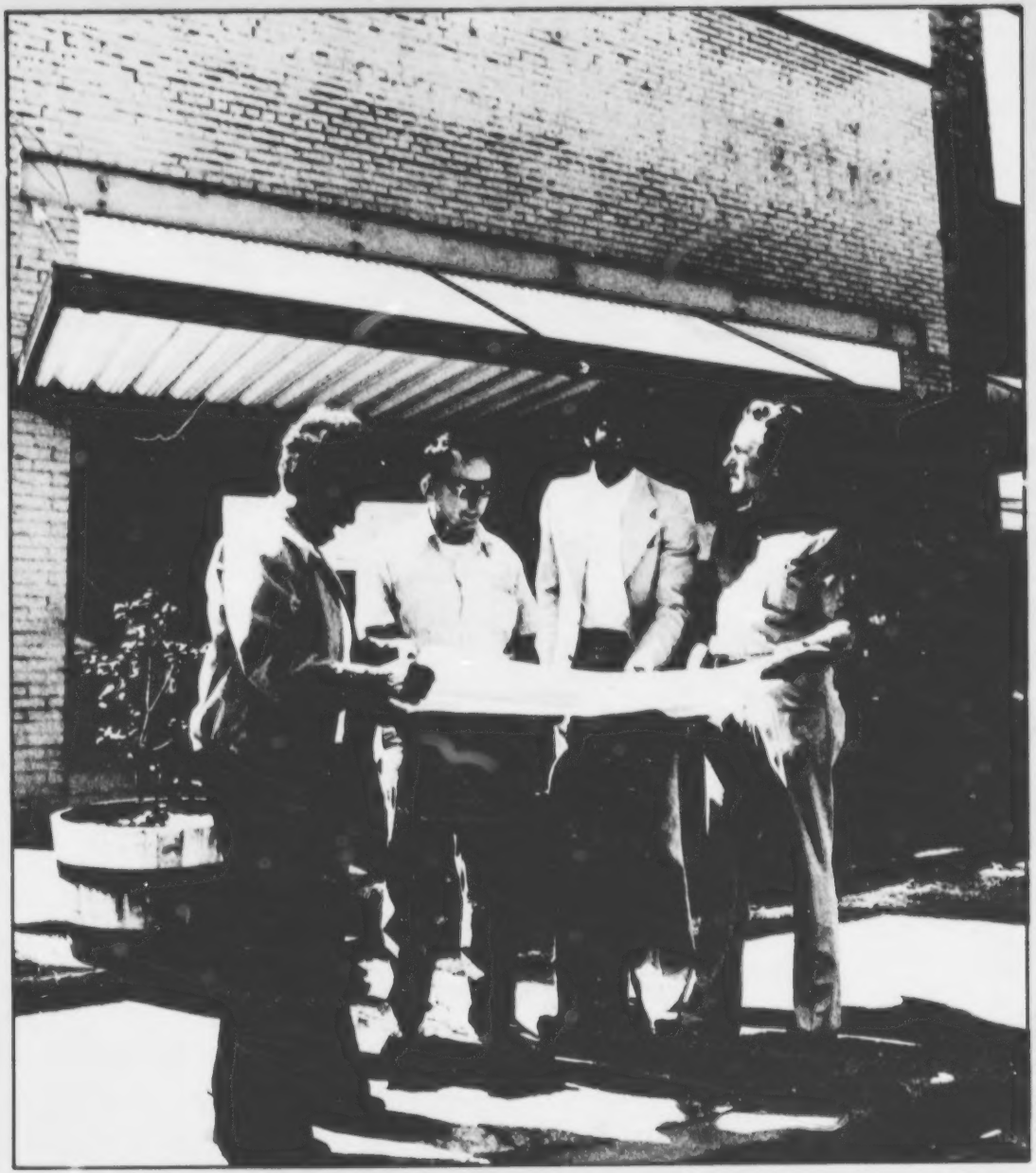
ARC was directed to do a study for the Senate Appropriations Committee on medical indigency in Central Appalachia during fiscal 1978. The results of the study showed that 25 percent of the population of Central Appalachia is medically indigent—that is, belongs to the group of working poor or near poor who are ineligible for Medicaid but cannot afford private health insurance. Now that the extent of medical indigency in Central Appalachia has been determined, the extent of the problem in other areas of the Region will be studied. In the future, demonstrations in health care reimbursement for this needy segment of the population will be devised.

New and Innovative Projects

In line with its congressional mandate to test new strategies of delivering health services, ARC funded several projects during the year that showed promise of solving particular health-service-delivery problems. Two ARC-funded nurse practitioner clinics, at Bogard and Washburn in northeast Tennessee, joined with two other clinics to use the financial management services of the East Tennessee Human Resources Agency (ETHRA). ETHRA provides management services to the clinics in such matters as establishing credit policies, making sure that clinics receive all the reimbursement from health insurors that they are entitled to, balancing budgets and managing grants. By sharing

this expertise, the clinics obtain quality technical assistance and can concentrate on the delivery of health to the farming communities they serve.

As another example, a new community health intervention project in Lycoming County, Pennsylvania, was designed to make county residents aware of how much their personal habits and lifestyles affect their health. The state public health department is conducting a media campaign publicizing information about health habits such as diet, weight, exercise, smoking and hypertension and hopes that one result will be to increase the availability of low-cholesterol foods in local stores. If successful, the project will demonstrate that a health promotion campaign conducted by a state health department and a local community can decrease heart disease and other leading causes of death and disability.



Community volunteers study the plan for remodeling the building behind them into the ARC-assisted Shuqualak, Mississippi, primary care clinic.

a health project in FY 78

Appalachian South Carolina Meets Its Doctor Need

Appalachia's doctor shortage has been dealt a decisive blow in the state of South Carolina. Four medical residency programs—three in family practice and one in internal medicine—are managing to reverse the old trend to such an extent that the state feels its six Appalachian counties' need for primary care physicians will be met by 1980.

When, nine years ago, South Carolina discovered a severe statewide undersupply of medical manpower—physicians as well as ancillary personnel—the South Carolina Appalachian Health Council undertook the task of securing ARC funding for 19 allied health and nurse training programs and for the four hospital-based residency programs, the latter in the cities of Greenville, Spartanburg and Anderson. A medical residency usually involves three years of postgraduate training for men and women who have successfully completed their medical school education. Residency periods are spent in hospitals and concentrate less on the theory than on the practice of medicine. Studies show that most doctors choose to establish permanent practices in or near the place where they undergo residency training. In view of this, the council decided to concentrate its efforts on training primary care physicians rather than attempting to recruit those who had already been through residencies in other areas. And it would seem that the decision was a good one, since of the 75 doctors who have graduated in the three family practice programs as of the end of fiscal 1978, 40 practice medicine

FRED PICKENS

FRED PICKENS

(ABOVE) The Center for Family Medicine in Greenville is one of the facilities used in the medical-residency training program. (LEFT) Dr. Bill Koche is a resident in the family practice program.

somewhere in Appalachian South Carolina. (An additional 10 doctors who trained in the program but did not graduate from it also located in Appalachian South Carolina.) The first ARC grant was awarded in 1970 to Spartanburg General Hospital, a second to Greenville Hospital System in 1971 and the third to Anderson Memorial in 1974. Greenville received a grant for its internal medicine residency in 1977.

Commission grants are used to pay the residents' salaries and the salaries of the faculty members who train them. Additional ARC funds aid the residency programs in other ways—they provide some book and equipment costs in the area health education centers and research centers for the doctors and other health workers, and they make possible some continuing education programs for doctors and nurses through the Appalachian Educational Satellite Program.

Dr. Joseph DeGrazia directs the residency program at the Spartanburg General Hospital. He has been at his job for three years and feels that the project is no longer an "experimental effort."

"It's matured into a good solid program," Dr. DeGrazia states. "As I see it, 1978 has been our best year to date. We're almost operating at full capacity. And we're proving to the rest of the state and, even, to the rest of the country, that this type of program is viable."

What makes the South Carolina program different from the typical residency arrangement is the setting. Traditionally, medical residencies were, and still are in most cases, conducted in hospitals connected with medical schools or in large medical centers, not in smaller community hospitals like those in Spartanburg, Anderson and Greenville. But, as a matter of fact, says Dr. DeGrazia, if indeed physicians are to be drawn to the Region's less populated centers on a more or less permanent basis, then their training experience must reflect the actual health care situation of such areas. And where better to gain such experience than at its source?

FRED PICKENS

FRED PICKENS

(TOP) Physicians check the patient list at the central nursing station in the Center for Family Medicine.

(BELOW) Technicians conduct blood tests in the center's laboratory.

Of the 111 resident positions available in both the family practice and internal medicine program, 88 of the 96 in family practice and 8 of the 11 in internal medicine were filled in 1978. The four programs include 19 faculty positions, 15 of whom are physicians, 3 instructors holding doctorate degrees and one a family nurse practitioner at the master's-degree level. The clinical faculty is recruited from among local physicians who must be board-certified and who must meet the approval of the national accreditation board which oversees all U.S. residency programs. The Medical University of South Carolina in Charleston lends its support to the Appalachian program by rotating some of its faculty members through the three hospitals to lecture on special topics.

After the termination of the ARC funding period (1975 for the Spartanburg family practice program, 1979 for the family practice programs in Greenville and in Anderson, and 1980 or later for Greenville's internal medicine residency), the hospitals, along with the state and other sources, assume fiscal responsibility for the programs.

The success of the statewide family practice program has prompted the state legislature to consider funding other residency programs, such as pediatrics, obstetrics and internal medicine. The family practice program, after all, is not only making it possible to fulfill Appalachian South Carolina's need for primary care physicians by 1980; it is also, in the process of training these young physicians, providing primary care to thousands of families. ■

Education

ARC's education program has changed course over the years in response to the changing needs of the Region. When the program began in 1965, a major problem for the Region was that much of its work force lacked the skills to compete in the current labor market. Vocational training was either not available at all or in many instances outdated or not tied to manpower requirements of the time. The Region badly needed a system of vocational and technical schools with up-to-date equipment. Under the Appalachian Regional Development Act (ARDA), the Commission therefore at first concentrated its education funds on the construction of vocational-technical education facilities and the purchase of equipment.

In time, as most of the necessary facilities were built and equipped, attention turned to operating programs in vocational-technical facilities. In 1971, amendments to the ARDA allowed ARC funds to be used for vocational education demonstrations and operating projects. As these projects got under way, they revealed various needs. It became apparent, for example, that many students lacked the basic reading, writing and math skills that were required for entry into vocational training. In 1975, when the Commission was approaching its original goal of enrolling 50 percent of the Region's 11th- and 12th-graders in schools that could train them for available jobs, the Act was amended once again to authorize projects that would demonstrate areawide education planning, services and programs, with special emphasis on vocational and technical education, career education, cooperative and recurrent education, and guidance and counseling.

Table 5
Education Projects Approved in Fiscal 1978
(in thousands of dollars)

	New		Continued		Total	
	No. of Projects	Amount	No. of Projects	Amount	No. of Projects	Amount
Vocational Education						
Construction	29	$11,649	5	$ 819	34	$12,468
Equipment	12	1,047	3	122	15	1,169
Operations	14	910	19	1,862	33	2,772
Demonstrations	3	22	3	147	6	169
Total	**58**	**$13,628**	**30**	**$2,950**	**'8**	**$16,578**
Other Education						
Construction	10	$ 1,919	0	0	It	$ 1,919
Equipment	8	848	1	26	9	874
Demonstrations	18	1,418	23	2,093	41	3,511
Total	**36**	**$ 4,185**	**24**	**$2,119**	**60**	**$ 6,304**
Grand Total	**94**	**$17,813**	**54**	**$5,069**	**148**	**$22,882**

Columns may not add because of rounding.

In fiscal 1978 ARC spent a total of $23 million on education projects of all sorts, including some $16.6 million on vocational projects (see Table 5 above).

Vocational Education

Since 1965 ARC has spent a total of $305 million to construct and equip education facilities—more than one-fifth of all nonhighway expenditures to date. This expenditure has supplied the Region with most of the vocational education facilities needed, and ARC has therefore substantially scaled down its construction program. It is now focusing on expanding, remodeling and reequipping the existing facilities. Beyond that, the Commission is seeking to make even better use of the funds expended on vocational education facilities by urging that job training and retraining, adult education sessions, community education classes and community meetings, and in-service teacher training be held in these facilities.

During FY 78, the Commission funded 88 projects in the area of vocational education. Although a major portion of the year's education

expenditures (59.6 percent) went to 34 vocational education construction projects and 15 equipment projects, there were more vocational education operating projects (33) funded this year than ever before, including 14 new projects. These operating projects are generally funded for five years. Demonstration projects, which test innovative ways to increase the effectiveness of vocational training, may be funded for no longer than five years. There were 6 vocational demonstration projects funded during 1978, three of them new.

If operating projects in vocational education are to contribute to the creation of a more skilled, competitive work force, the Commission foresees a need to make job-counseling and placement services more widely available. Training programs must also be sensitive to local business and industry needs and to local needs for training in new areas of specialization.

In 1978, ARC continued to fund the Mississippi Appalachian Manpower Consortium, a vocational demonstration project that is a prime example of a community-based program that reflects local views on needed job skills and employment opportunities. The consortium effort is supported at two levels. At the state level, Mississippi's Employment Security Commission is developing substate occupational data geared to the state's 13 junior college districts. At the local level, the consortium, an association of all local agencies and institutions providing manpower training, is centered around three junior colleges in northeastern Mississippi: Itawamba Junior College, East Mississippi Junior College and the Northeast Mississippi Junior College. The consortium works with the state agencies to provide available manpower supply data, to refine the state manpower projections and use the supply data and the projections to plan and develop training programs. In addition, career information centers established at the junior colleges provide counseling to individuals of all ages and link manpower agencies and educational institutions in their districts. Regional and local steering committees monitor consortium activities.

WITCO PHOTO

A student from the Bradford (Pennsylvania) Area High School oil production project adjusts the machinery on one of the oil wells. ARC funds helped purchase the equipment.

ARC also funded several innovative vocational education projects in energy-related areas during fiscal 1978. In Kentucky, the Commission assisted in funding the construction of three mock mines on the campuses of state vocational-technical schools. In Pennsylvania, ARC funds helped to buy oil-drilling and other equipment for a high-school-sponsored training project where oil is actually being produced and its marketing is expected to make the program self-supporting soon. In North Carolina, two technical institutes received ARC support to demonstrate the feasibility of solar heating and cooling systems, which will not only save energy but will also provide "hands-on" experience and training for future solar energy technicians and energy conservation specialists.

Other Education

Facilities and equipment for nonvocational education programs made up 12.2 percent of ARC education expenditures in fiscal 1978, as the Commission continued to support some construction and equipment programs, such as library construction and educational television facilities and equipment. In addition, 15.3 percent of the education budget went for 41 nonvocational demonstration projects, 18 of them new. Half of the demonstrations were academic skills programs and regional education service agency (RESA) programs.

RESAs

RESAs are multicounty confederations of school districts that share the costs of such specialized education services as media repair and distribution services, programs for the talented and gifted, and joint purchasing programs. Many of these services cannot be afforded by individual school districts, but pooling funds and joining efforts through the RESAs is a cost-effective way for school districts to provide these programs. Most RESAs

have now exhausted their eligibility for ARC funding and have become self-sufficient, being supported entirely from state, local and some federal funds, although individual programs administered through the RESAs do receive ARC support. Many of the major centers through which the Appalachian satellite program (see below) operates are RESAs.

Literacy Training

Over the last few years Appalachian states have recognized the need to raise the level of literacy of their young people so that they can take better advantage of vocational education courses. Literacy programs for elementary, junior high and high school students continued in North Carolina, South Carolina, Mississippi and Maryland.

In 1978, ARC funded a study on the incidence of functional illiteracy among adults in the Region. The study will define target groups of functional illiterates whose training would benefit Appalachia's economic and social development. Program recommendations for competency (including literacy) training will be based on the needs of the target groups.

Satellite Program

Fiscal 1978 was the first year of a four-year Appalachian Education Satellite Program (AESP) operating grant from the National Institute of Education (NIE). In 1974, AESP was initiated as a demonstration project to show that a range of public service and academic courses could be developed and delivered at a cost competitive with on-campus courses. The National Aeronautics and Space Agency (NASA) made partial use of the applications technology satellite available to AESP. NIE provided

WITCO PHOTO

funds for program development and delivery; ARC provided staff supervision and assistance for the project. The demonstration program ended in 1977.

During fiscal 1978, under the new AESP program, nine graduate and undergraduate courses prepared by the AESP Resource Coordinating Center at the University of Kentucky were broadcast to 45 receiving centers in the Region by two of NASA's experimental applications technology satellites. Credit for these courses was offered by 52 academic institutions. Ten of the receiving sites were RESAs, one was a hospital and the rest were universities, colleges, junior and community colleges and technical schools. The signals were sent from an up-link station at the University of Kentucky, with a back-up up-link station available at a NASA facility in Rosman, North Carolina.

The goal of the new four-year operating grant is to make AESP a responsive educational service supported by its users. AESP has set itself the following short-term goals:

- Users will help pay AESP cost.
- A structure will be established to measure cost-effectiveness.
- Material telecast will be responsive to the needs and interest of the users.
- Feedback processes will be expanded.

During the fiscal year AESP distributed a manual to receive sites defining its policies and procedures. ARC is helping to plan the expansion of AESP to include cable TV, commercial satellites and state public-broadcasting systems. AESP's long-term goal is to establish a regionwide, public-service telecommunications network. ■

(LEFT) Here another Bradford student (see opposite) is gauging the amount of oil in a storage tank. (BELOW) Working a bulldozer is another aspect of oil production.

WITCO PHOTO

an education project in FY 78

Computer Systems: Another RESA Money Saver

After only five months, a RESA computer system in Appalachian Ohio is already providing significant savings to participating school districts. Currently the computer network operates in seven school districts of the Ohio Mid-Eastern Regional Education Services Agency (OMERESA), but plans are under way to extend it to other OMERESA districts and to replicate it in all four of the state's RESAs. In April 1979, it will begin serving the Southeastern Ohio Voluntary Educational Cooperative (SEOVEC), followed by the South Central Ohio RESA (SCORESA) and, eventually, OACES (Ohio Appalachian Cooperative for Educational Services) in western Appalachian Ohio.

ARC granted OMERESA and SEOVEC nearly $288,000 each to acquire a central data processor and hire systems technicians to direct their computer operations. At OMERESA the processor is located in Steubenville at the RESA's main office. The seven participating school districts are connected to the main processor via terminals—video machines with typewriter key boards that transmit data to the central processor. In addition to the terminal, each district's computer hardware includes a printer that produces whatever print-out copy (such as payroll checks or income tax forms) a particular school district might request from the main processor. The processor is connected to the district terminals by telephone.

Payroll and budget accounting so far represent the main services offered to OMERESA's school districts. Craig Closser, OMERESA director, believes that it is better to first perfect one or two procedures and then attempt additional ones. In the near future, OMERESA will deal with schools' grade reporting, scheduling and bus routing. Eventually, the system should be able to offer the districts the important educational service of computer-assisted instruction.

The RESA computer network is linked to the computer facilities of the Ohio state education agency in Columbus. This linkage gives the RESAs access to high-speed computer hardware and to already developed programs and will also promote closer cooperation between the state education agency and the RESAs.

An unusual feature of this project is the combination of high quality and relatively low cost—a combination typical of RESA services. As with other RESA-sponsored logistical activities (like school supply and food purchasing), the school districts obtain high-quality computer services at an enormous saving because of the cooperative purchasing of equipment and supplies. By obtaining seven terminal machines at one time, for instance, OMERESA was able to offer the machines to the districts for far less than the individual sales price. The RESA also saves money for the schools by providing actual programming services at below the going rate.

Other school districts have shown interest in joining the system, and various agencies are expressing their desire to participate: the Jefferson County mental health board is negotiating with Craig Closser, and OMEGA, the local development district, is putting into the system a data base of available industrial land to be used in attracting businesses to the area. The services provided by the computer network to noneducational agencies like these increase OMERESA's revenues and help it come closer to its goal of financial independence.

Ohio Appalachia's fledgling computer network offers one more example of what can happen when a sound regional approach to reducing cost and increasing efficiency is undertaken. ■

TOMMY NOONAN

TOMMY NOONAN

(TOP) Craig Closser directs OMERESA. (BELOW) The Buckeye Hills Area Vocational School is in the OMERESA district.

Child Development

The ARC child development program, initiated in 1969, is intended to demonstrate effective ways of delivering a full range of services to Appalachian children aged 0 to 6. The program has an influence beyond the borders of the Region, since Congress initiated it as a laboratory for the nation—a place where the efficacy and desirability of various children's programs could be tested. From the beginning of the child development program, the Commission has felt it essential to encourage planning and cooperation among state, regional and local agencies involved in children's programs, in order to simplify the delivery of services to children.

The early years in children's lives affect most importantly their future ability to contribute to society. If the Region is to grow economically, it must be populated with sound and healthy adults. Preventive measures taken during early childhood years at relatively little expense can often eliminate much higher economic and social costs later. With this in mind, the Commission has set for itself the following objectives in child development:

- to help underserved areas of the Region obtain needed services for children under six and their families, with an emphasis on comprehensive services and the prevention of disease and disabilities
- to help the Appalachian states and substate organizations plan and implement these services so that duplication and fragmentation can be avoided and existing federal and nonfederal resources fully used
- to test innovative approaches to providing these services.

During fiscal year 1978, the Commission funded 158 child development projects, about half of which were comprehensive day-care centers. Most of the others were single-service projects where a preventive-health component was linked to another component—for instance, a social services component added to a day-care center. Within these two general categories, approximately 24 different types of programs were funded for a total of $12.1 million. Twenty-six new projects were initiated in Georgia, North Carolina, New York, Pennsylvania, South Carolina and Tennessee.

Change in Project Funding Period

An amendment passed by Congress during this fiscal year changed the statutory limitation of five years for child development projects. Where no other funds, federal, state or local, are available, projects may now receive an additional two years of ARC funding. In FY 78, ARC funded 50 projects under this amendment for $4.3 million. Whether this should remain a permanent change was under consideration at the end of the fiscal year in connection with the Commission's renewal legislation.

Congress also mandated that the Commission and the Department of Health, Education and Welfare (HEW) study the inability of some child development programs to become self-sufficient after five years of ARC funding. As a result of this study, joint ARC-HEW recommendations were being prepared at the end of the fiscal year.

Research

A study to evaluate and compare three organizational approaches to the delivery of comprehensive child development services in the Region also neared completion at the end of the fiscal year. A consultant firm examined six comprehensive child development projects in Alabama, South Carolina, Mississippi, Ohio, New York and Kentucky in detail to produce data for the ARC study.

KENNETH MURRAY

Project Monitoring

A project application and monitoring format identical to the one used by ARC health projects (see page 29) was in its first full year of use in Georgia, Mississippi, Tennessee, Pennsylvania, New York, Ohio and West Virginia child development projects. These states have found the format to be a helpful organizing tool for the more efficient management of their projects.

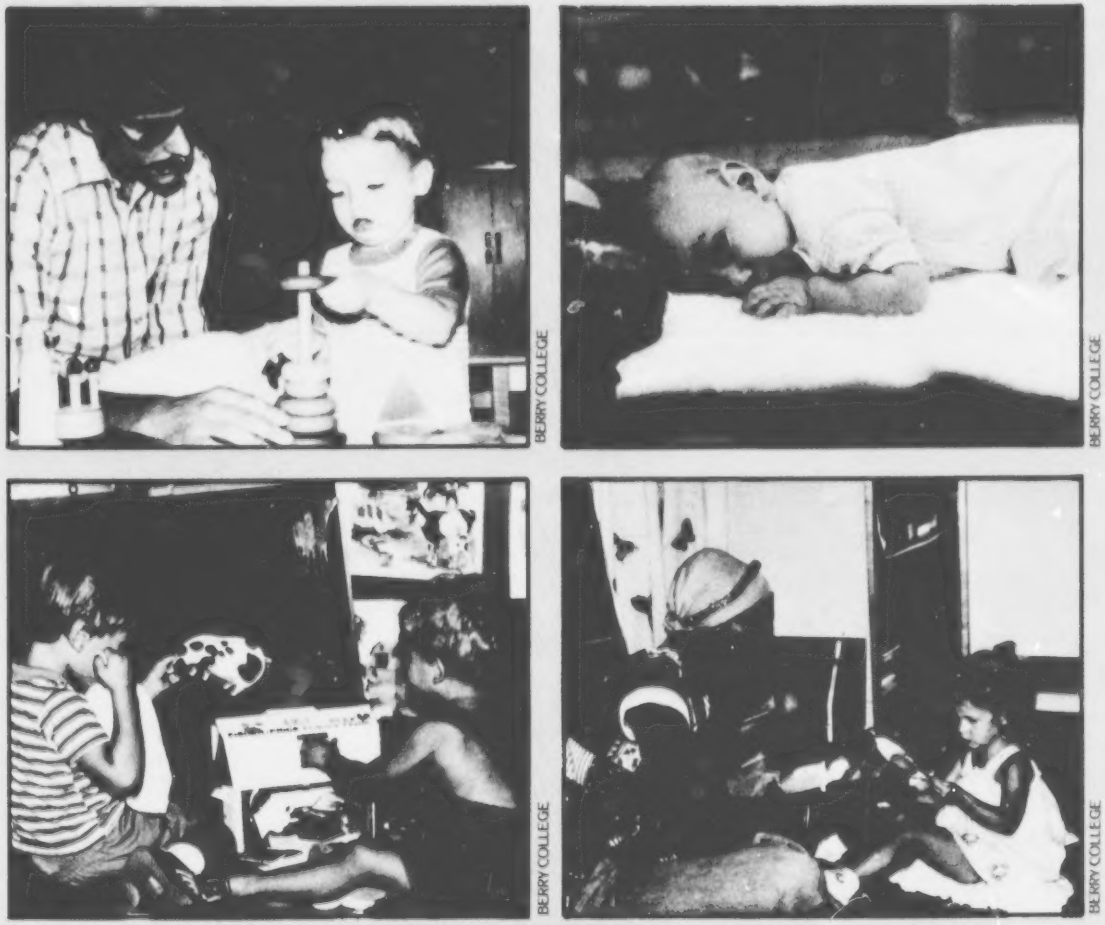
a child development project in FY 78

Infant and Toddler Care in Northwest Georgia

Day care for children aged three months to three years is usually difficult for parents to obtain. Many day-care centers prefer older youngsters because they are less dependent than little babies and require a great deal less time and attention. And of the few centers that do permit enrollment of the very young, not many have a staff that is especially trained to deal with infants' particular needs.

At Berry College in Rome, Georgia, a demonstration project began in 1977 for the purpose of learning what day-care centers ought to offer children up to three years of age beyond physical care. At the college's infant/toddler center, 32 babies are being exposed to an experimental day-care experience, from which a sound curriculum for day-care providers in centers throughout northwest Georgia is emerging.

"Very little has been done to prepare day-care personnel for working with infants," explains Gertrude Embree, director of the Berry College project. "We are testing out several approaches. We have created a laboratory arrangement with four groups of eight children each. The groups meet daily for two-hour sessions with one full-time caregiver and two part-time assistants. During the sessions, the children receive more than good babysitting. They are exposed to various learning techniques designed especially to help them learn as much as possible."



Toddlers and infants receive expert care and guidance at the Berry College project in Rome, Georgia.

When they are not napping or snacking, the center's children are engaged in learning games that help them practice skills such as eye/hand coordination, color identification and others. Depending upon a child's age, he or she discovers the mysteries of music box sounds and bell sounds, the appeal of different shapes and different textures. Even the three-month-olds are provided with opportunities to develop their grasping abilities along with other simple skills.

The test curriculum used at the lab was designed by the college's Department of Education

BERRY COLLEGE

Youngsters enjoy practicing eye-hand coordination by working puzzles at the Berry College infant and toddler center.

and Psychology. It is family-oriented, meaning that the childrens' parents are very much a part of the total program. Mothers and fathers are invited to come to the center whenever they can and actually join with the caregivers in helping the babies develop, for instance, muscle coordination through games and exercises. For parents unable to come to the center while their children are there, there are newsletters with special tips on child care and development that are sent home on a regular basis. Each family is given its own notebook in which to store the newsletters for easy reference. In addition, large display bulletin boards at the center explain useful aids for parents to employ with their small children. And occasional workshops, for caregivers and for parents, are held at the center and offer another opportunity to gain deeper insights into the small child's development and to learn ways of complementing that development.

"Of course we realize that the Berry demonstration center offers an ideal situation—one that will rarely occur in most day-care centers," says Ms. Embree. "This is why we're trying to come up with many different approaches for getting parents, including busy working parents, caught up in their child's early growth."

When the two-year Appalachian Regional Commission (ARC) grant that funds the infant/toddler demonstration project terminates in 1979, it will be replaced with financial support from Berry College. The college strongly endorses the center's efforts and encourages various academic departments to contribute to the laboratory experiment. The Departments of Continuing Education and Home Economics are actively participating in the center's work, helping formulate the final curriculum as well as using it for a learning tool for students.

Day-care agencies in the vicinity of Berry College will begin receiving a modified version of the center's current program in the fall of 1979. The final curriculum, Ms. Embree says, will be one that offers a variety of techniques for use by caregivers and parents, the people most directly responsible for the general well-being and development of the very small child. ■

Chapter 8
Local Development Districts

In 1965, the Appalachian Regional Development Act (ARDA) authorized the Appalachian Regional Commission to give administrative support to local development districts (LDDs) certified by their states. LDDs are multicounty planning and development agencies through which counties and communities join together to plan and achieve development goals.

As early as 1974, the entire Region was served by these LDDs, of which there are 69 (see page 82 for map and list.)

Although ARC provides the LDDs with administrative funds (nearly $5.5 million in fiscal 1978), most of the districts receive additional funds from a variety of federal, state and local sources. The districts must provide 25 percent of their administrative budgets themselves.

LDD Activities

Strengthening their role as an invaluable link in the ARC development partnership, the districts have continued to broaden their technical assistance to local governments, test new approaches to area problems and adjust their programs to fulfill the needs identified by local governments and local citizen organizations.

LDDs undertake many types of activities for the benefit of their members. Over the past year, Appalachian LDDs engaged in the following projects:

- preparing a current list of local manufacturers and products
- cooperative purchasing by participating local government
- analyzing local transportation needs
- making a land use plan
- preparing a housing information system that identifies the availability and price of new housing units available for rental or purchase
- maintaining a solid waste disposal program
- drawing up a water quality management plan
- examining the feasibility of individual aerobic treatment systems for waste water
- planning a drug abuse control program
- inventorying renewable resources for an energy education program
- developing an industrial park
- planning and arranging funding for water and sewer systems.

The Areawide Action Program

During 1974, ARC worked over several months with state and LDD leaders to design improvements in its development programs. One result was a decision that the Commission should encourage LDDs to combine fragmented planning and development activities into a single areawide action program (AAP). The Congress subsequently gave its support to this process in the 1975 legislation extending ARC.

An AAP requires a continuing process through which the LDD assesses the resources and problems of the area it serves, sets priorities on area needs and schedules funding for proposed projects to meet those needs. This is a direct reversal of the more traditional process through which fragmented development programs evolve primarily from uncoordinated grantsmanship shaped primarily to meet guidelines of various granting agencies.

The AAP process relies on extensive citizen participation to identify problems and possible solutions. Through individual participation in public meetings and functional LDD committees, citizens make their wishes known to the LDD board. The board then assigns priorities to the projects and—with staff assistance—seeks federal and other funding from appropriate sources.

The AAP also facilitates coordinated activity at state and federal levels since it provides in a single document at any time the current development goals of the area and the actions it is seeking to attain those goals. Each federal or state agency can fit its categorical objectives into the overall AAP framework.

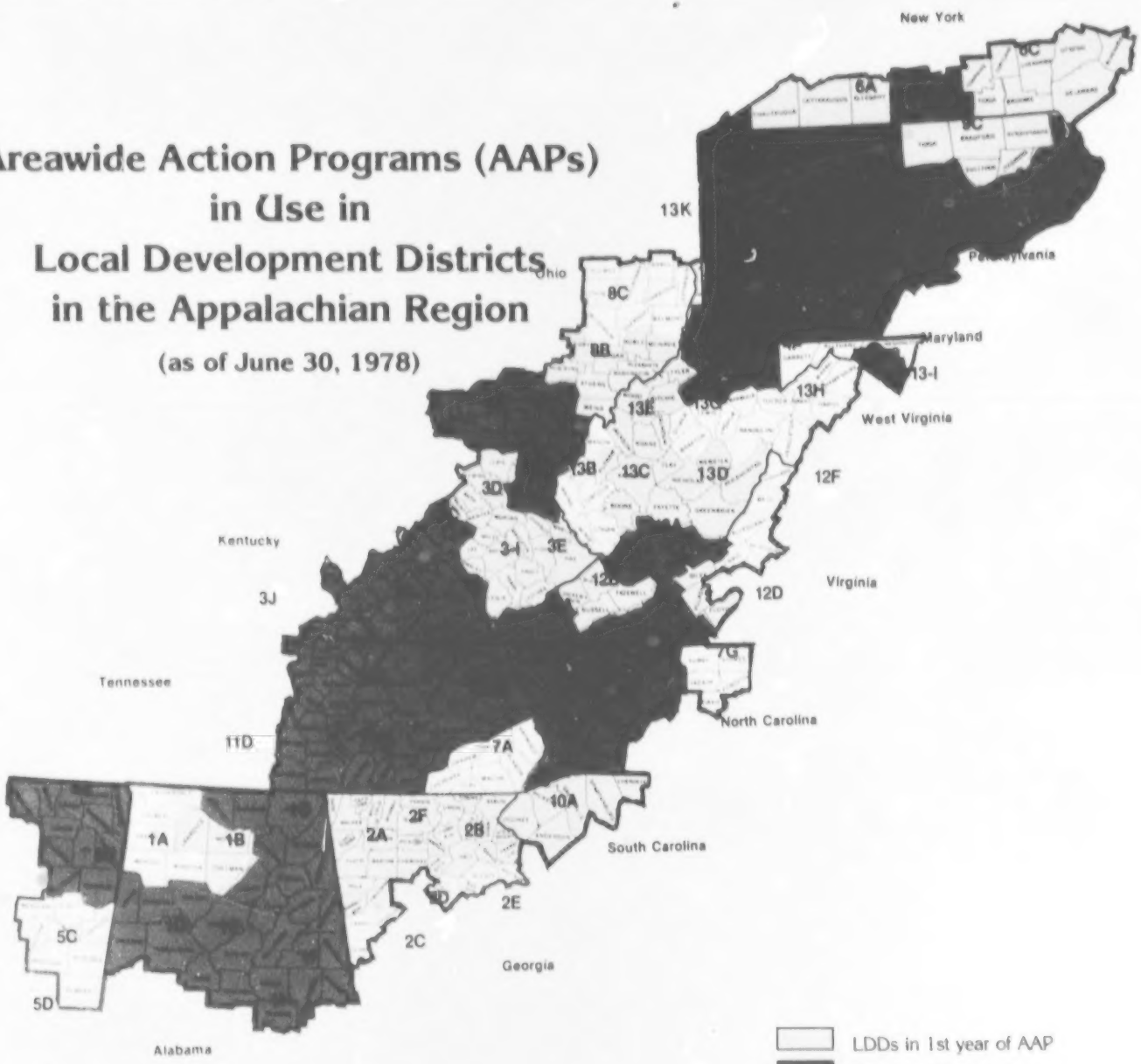
The AAP combines planning and programming effectively within a single development program. The planning phase identifies the priorities of the development program, and the programming phase ties the pieces together by integrating local, state and federal funding programs. This makes joint funding of projects by several different agencies easier.

AAPs help develop state and ARC strategies and priorities by reflecting locally perceived needs and providing a basis for program evaluation. They also help strengthen relationships between districts and states and stimulate capital budgeting processes in counties and municipalities where none existed before.

Of the 52 LDDs using the AAP process in FY 78, 34 were using it for the second time and 18 for the first (see map opposite). ARC is providing two years of funding to LDDs entering the AAP process. In fiscal 1978, this funding amounted to $875,000.

Areawide Action Programs (AAPs) in Use in Local Development Districts in the Appalachian Region

(as of June 30, 1978)



a local development district activity in FY 78

A Pattern for Public Participation

"My whole philosophy is geared toward enlisting local support to the greatest possible extent," says Allen Neel, the executive director of the East Tennessee Development District (ETDD), an LDD based in Knoxville that includes 16 counties. "After all, we're here to serve the local governments; so we have to know what they need."

Public participation, a goal of nearly all federal, state, regional and local agencies that directly serve the public, all too often does not advance beyond the theoretical stage. Attaining real local involvement is never easy. But ETDD is well on the way to realizing this elusive goal as the result of an all-out campaign. Beginning with small meetings of citizens on the county level, then moving on through the LDD staff and standing committees, and finally being reviewed by the entire board of directors, projects in the ETDD area reflect a high degree of grass-roots and local government input.

"Our board operates in textbook fashion," Neel explains. "Our committees are vital, our county citizens' meetings have produced some fine results, and I think we've begun to establish the sense that something really comes from all the meetings and all the planning."

The composition of most LDD boards is determined by state law, but the degree to which they function is not so easily prescribed. ETDD's board consists of 82 members, each of whom represents some level of local government—mayors, judges, etc.—or serves as a county's industrial development officer. Each board member belongs to a specific standing committee, the main function of which is to assign priorities to project proposals. The health committee, for example, may have eight or ten projects to consider, projects which have originated at the open meetings called by county judges or were developed by organized groups within the counties. Recommendations from the counties are written in proposal form and submitted to the LDD's health staff. At subsequent committee meetings the staff presents each proposal, accompanied by staff opinions as to which seem most in need of grant assistance.

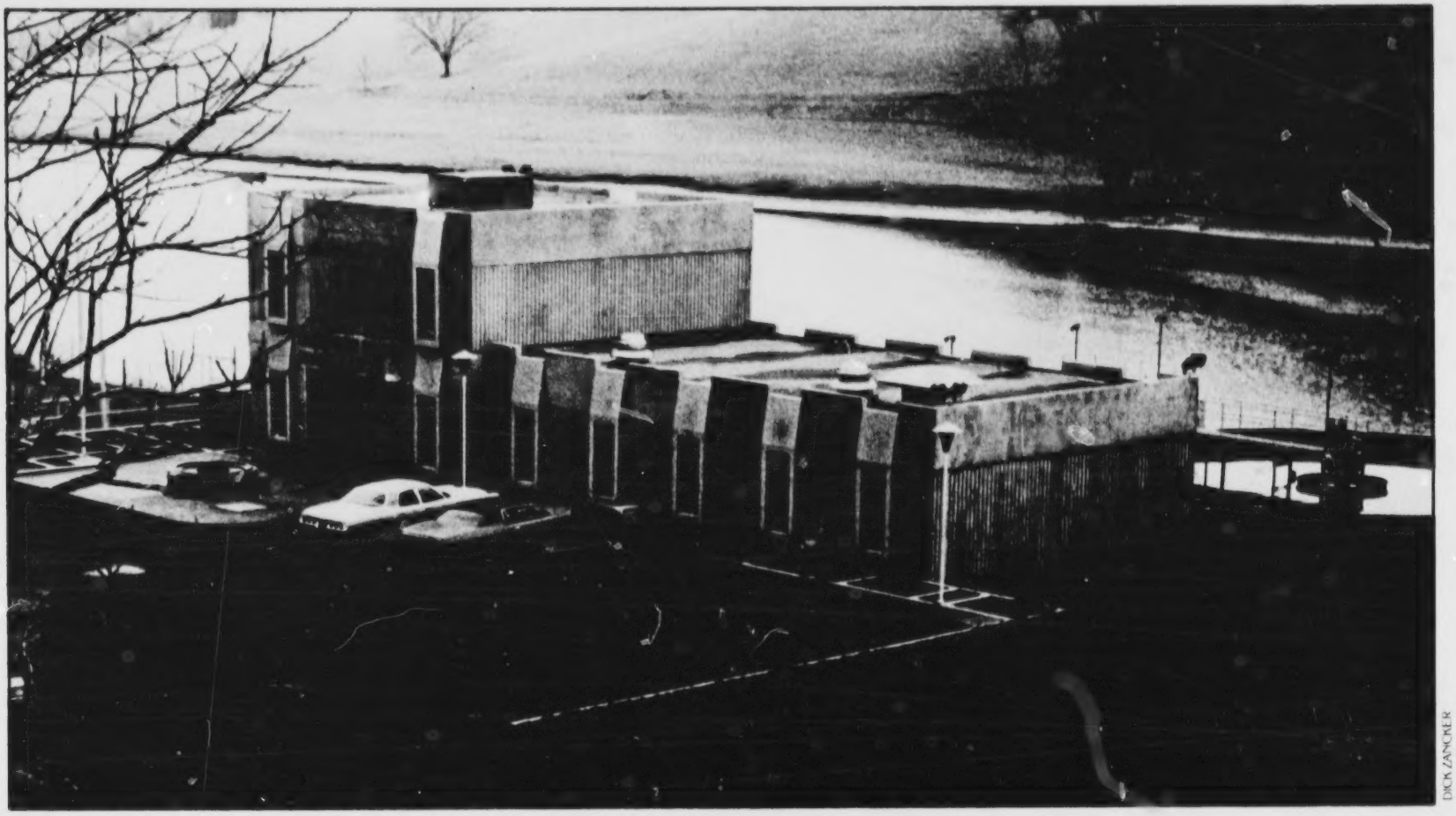
"It's at the committee level where we see local participation at its best," Neel believes. "The staff has really got to prove to the committee members why it deems one proposal better than another. Our committees simply will not rubber-stamp what the staff wants."

In 1978, ETDD published a "Statement on Public Participation," a document that clearly defines the LDD's belief in the grass-roots involvement concept. The statement is ETDD's declaration of intent to marshal all the resources it can to attain a strong base of public support for what the district does. It lists the general policies it follows (such as holding regular public meetings that are well publicized and involve minorities) and specifies the exact steps that must be taken to expand local involvement and to increase local governments' responsiveness.

According to Neel, regional planning is improved by increased local involvement. He sees them as two sides of the same coin. Both are needed if concrete programs are to be the end result.

"Local problems are often regional problems," he says. "It's probably easier to get support when we are dealing with purely local issues, especially when a local problem is solved in a concrete manner. But we always bear in mind how the local problem ties in to the regional plan, and we are making progress in conveying the importance of the overall picture to county judges and other local officials."

(TOP) ETDD Executive Director Allen W. Neel (left) works closely with the LDD's board chairman, C. Howard Bozeman. (BELOW) The ETDD economic development committee reviews projects.



DICK ZANCKER

One of ETDD's past projects was the $4.4-million Anderson County water system whose treatment plant is pictured above.

ETDD's rural development program exemplifies the district's local/regional methodology at work. The program, funded in FY 78 by the Department of Housing and Urban Development, addresses the special needs and problems of small rural communities and counties (15 of ETDD's 16 counties are considered rural). Mini-conferences for the public, held in subsections of each county, focus on each section's particular concerns. Issues that cross county lines, such as rural law enforcement or health needs, become regional matters and are turned over to the ETDD staff and committees. On narrower issues, on the other hand, the LDD immediately offers whatever technical assistance or advice it can.

Executive Director Allen Neel and his staff realize that achieving actual public involvement on an on-going basis demands continuous attention and effort—something that's hard to squeeze into a program dealing with the many needs of the large 16-county area. But this LDD is determined.

"The idea of real public participation is not unique with ETDD," Neel says. "It's a basic premise upon which all LDDs try to operate. But we're going after it with a lot of enthusiasm and hard work. One thing's for certain, we know it makes a difference to our effectiveness."

Chapter 9

Planning, Research and Evaluation

A vital part of the Commission's overall development program, and one mandated by Congress, is to assist the Appalachian states to develop comprehensive and coordinated plans to guide development investments in the Region. This planning process, which is a continuous and constantly changing one, coordinates ARC's policies and programs and identifies both where new strategies are needed and which programs are outdated.

In order to plan intelligently, the Commission compiles accurate information about the Region. It also conducts and sponsors individual research projects designed to find solutions to Appalachian problems.

All of this activity is designed to enable ARC to remain flexible and responsive to the changing conditions of the Region.

Planning

Review of state development plans continued as a key activity in fiscal 1978. These plans became a statutory requirement in 1975, thereby putting into law a long-standing ARC policy. In each state's plan, which must be related to the overall objectives and priorities of the state, the state establishes longrange planning and budgeting goals for its Appalachian area. Each plan must document the role played by the LDDs in developing the plan.

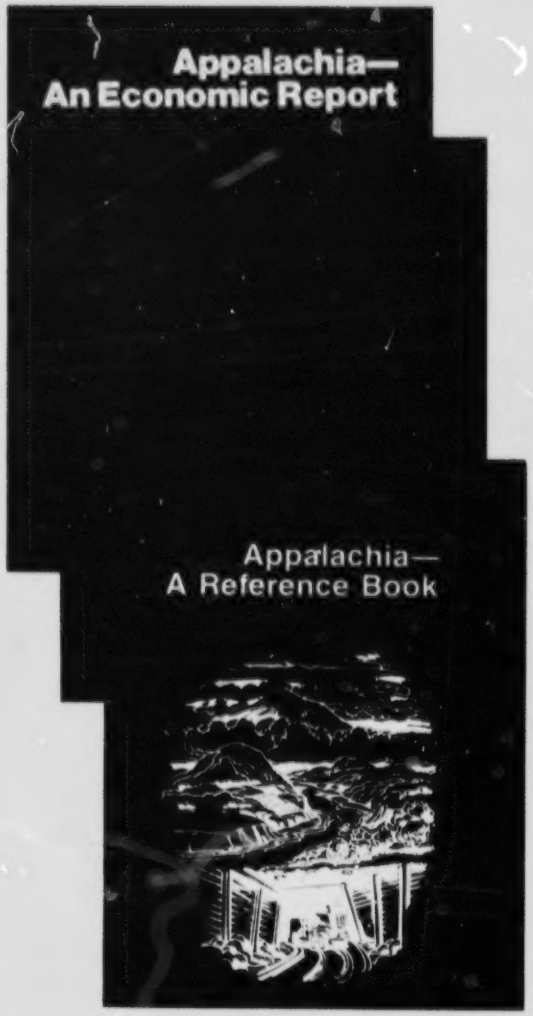
The Commission has recently established a regional planning process, as required under the 1975 Amendments to the 1965 Appalachian Regional Development Act. As directed by the Congress, the regional plan, rather than being a single static document, is subject to continual review and revision in the light of changing regional priorities and concerns. The principal elements at this time are as follows:

- The statement of multistate regional policies incorporated in the document Appalachia: Goals, Objectives and Development Strategies, adopted December 8,1977, by the Commission. Designed to make the most effective use of ARC funds and to help the Region solve its problems and promote economic development, these policies are intended to be a major point of reference for the states during preparation of the 13 state development plans and for the LDDs during preparation of the individual areawide action programs.
- Policies developed and recommended by regionwide conferences and adopted by the Commission. Following the Appalachian Conference on Balanced Growth and Economic Development held in Charleston, West Virginia, in October 1977 (see page 2 for a more complete account of the conference), a series of resolutions on the following subjects was adopted by the Commission:

1. establishment of a national system of regional commissions
2. continuation of the Appalachian regional development program
3. energy production and energy impacts
4. promoting growth in small cities and communities
5. land development and housing, human services programs, and timber resources and agriculture
6. private sector participation in the regional development process.

- ARC's budget plan and program budget, as submitted to and acted upon by the Office of Management and Budget and the various appropriations committees of Congress.
- The on-going statement of Commission policy and guidelines for program administration set forth in the ARC Code.
- Individual state development policies included in the current state development plans and investment programs, as approved annually by the Commission. The objectives, needs and priorities contained in these documents are summarized each year in a volume of abstracts.
- Basic data and analysis of the Region's economic and social conditions, as included in the annual publications Appalachia—A Reference Book and Appalachia—An Economic Report.

One of the purposes of this regional planning process is to set priorities that will make the best possible use not only of ARC funds but of all federal, state and local funds expended in the Region. It is encouraging to note that other agencies are beginning to recognize the ARC planning process and to place reliance on it in determining funding priorities. As an example, the Farmers Home Administration (FmHA) and ARC are preparing a memorandum of agreement under which the two agencies will establish and honor mutually acceptable policies, plans and priorities and allocations.



FmHA will give major consideration to priorities stated in the Appalachian areawide action programs in making loans, loan guarantees and grant decisions in the Region.

Evaluation and Monitoring

A state evaluation and monitoring assistance program has been established to help the states develop a capacity to monitor and evaluate projects funded by ARC in all areas of the Commission's program. All 13 states are participating in the program, which will help ARC develop a comprehensive, descriptive inventory of all projects funded since 1965 and maintain continuous up-to-date information on current and future projects. All 13 states are reviewing all past and current projects and reporting their findings to the Commission, to assist it in carrying out its Appalachian development planning and programming process. The program will go far towards assuring that Commission investments are achieving their identified objectives in a timely, cost-effective manner. By determining which approaches have worked best, the program will help the Commission evaluate current projects better and select appropriate innovative projects in the future.

Research

As part of its effort to determine what changes are occurring in the Region at any given time, the Commission maintains current statistical information on population changes, per capita income and employment/unemployment figures for the Appalachian states. Most of this information is available by individual county and LDD as well as for the Appalachian portions of states. Current information on these indicators is used by ARC and the Appalachian states in determining the desirability and validity of proposed projects.

Much of this information, together with some statistics on education, health, housing, natural resources and local governments, was included in Appalachia—A Reference Book, published by the Commission during fiscal 1977. A second edition will be published in 1979.

The Commission engages in research on topics related to its program and to the needs of the Region as part of its on-going regional plan activities, in order to assist in policy and program development for the Region. Most of these research studies are described in other chapters.

Research continued on a major study dealing with Appalachian migration. The study examines current migration patterns and their implications, characteristics of migrants and the impact of ARC programs on migration out of the Region. ■

Chapter 10

Finances

In the Appalachian partnership, state and local bodies participate with the federal government in making decisions and determining priorities. They also share to a significant extent in the financing of the program. The federal government has contributed 58.9 percent to date of the funds for all Appalachian projects, while state and local sources have furnished the rest.

Authorizations and Appropriations

The federal share of the financing first requires authorizations, which are amounts provided by law setting a ceiling on funds that may be appropriated. These authorizations have been stated in two-year periods for nonhighway programs. Appropriations are made annually for Appalachian programs within the ceilings provided by these authorizations.

Table 6 at the right summarizes the appropriations made under each biennial authorization. These appropriations through fiscal year 1979 totaled $3,905.3 million, of which $2,334 million was for the Appalachian highway program.

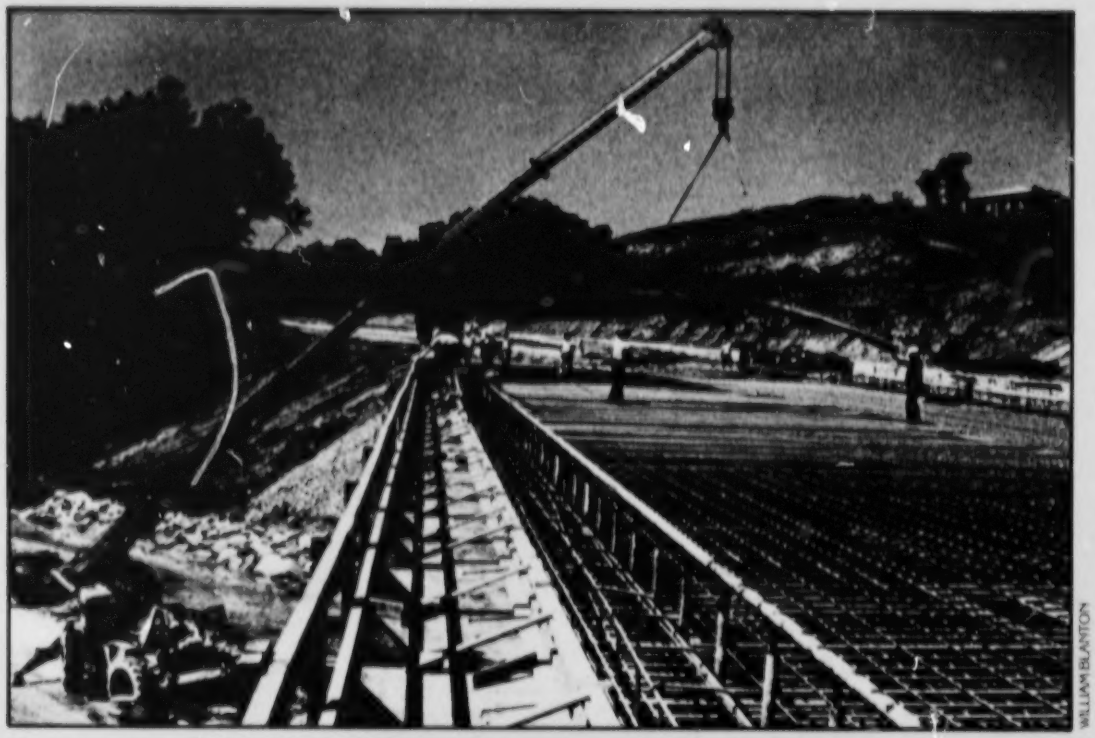
The highway program, initially authorized for an amount of $840 million through 1971, has received increases in authorized mileage and appropriations so that $2,930 million is now authorized through 1981 (see Table 7 on page 47). The latest change was authorized in the 1975 amendments,which increased the amount of $180 million previously authorized for 1978 to $250 million and authorized $300 million each year for 1979 and 1980, and $170 million for fiscal 1981.

Table 8 on page 48 provides appropriation data for each of the various Appalachian programs. Through 1971, authorizations were provided for two-year periods for each of the nonhighway programs conducted by the Commission. Beginning with the 1972-73 period, the Congress provided authorizations for all nonhighway programs in a lump sum. Authorization for the 27-month period covering 1976, the transition quarter and 1977 totaled $340 million, of which $256.5 million was

Table 6
Appalachian Authorizations and Appropriations
for Highway and Nonhighway Programs and Administrative Expenses
(in millions of dollars)

	Highway	Nonhighway	Administrative Expenses	Total Appropriations
1965-67				
Authorizations	—	$ 250.0	$ 2.4	
Appropriations	$ 300.0	163.4	2.4	$ 465.8
1968-69				
Authorizations	—	170.0	1.7	
Appropriations	170.0	130.3	1.6	301.9
1970-71				
Authorizations	—	268.5	1.9	
Appropriations	350.0	234.5	1.9	586.4
1972-73				
Authorizations	—	282.0	2.7	
Appropriations	380.0	260.0	2.3	642.3
1974-75				
Authorizations	—	294.0	3.3	—
Appropriations	315.0	248.5	3.2	566.7
1976-77				
Authorizations	—	340.0	4.6	
Appropriations	384.7	256.5	4.3	645.5
1978-79				
Authorizations	—	300.0	5.0	
Appropriations[1]	444.3	248.1	4.3	696.7
Total Appropriations	**$2,344.0**	**$1,541.3**	**$20.0**	**$3,905.3**

[1]Includes FY 78 and FY 79 to date.



WILLIAM BLANTON

The construction of this bypass around Athens, Ohio, should be completed by late 1979.

Table 7
Appalachian Highway Authorizations
(in millions of dollars)

Appalachian Legislation	Period Covered	Amount of Authorization	
		Added	Cumulative
1965 Act	through 1971	$840.0	$ 840.0
1967 Amendments	through 1971	175.0	1,015.0
1969 Amendments	through 1973	150.0	1,165.0
1971 Amendments	through 1978	925.0	2,090.0
1975 Amendments	through 1981	840.0	2,930.0

Cumulative authorization through 1979: $2,460 million.
Cumulative appropriation through 1979: $2,344 million.

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appropriated. For fiscal years 1978 and 1979, $300 million was authorized, and $248.1 million appropriated. For the 14-year period ending September 30, 1979, a cumulative total of $1,541.3 million has been appropriated for other-than-highway programs of the Appalachian Regional Commission.

Subregional Budgeting

In June 1974, the Commission significantly changed the manner in which federal funds are allocated among the 13 states in the Region. This new approach was designed to take account of the differences in development needs, progress and resources among the three subregions. Beginning in fiscal year 1975, a single allocation was made to each state for the four main nonhighway programs for which individual allocations had previously been made: health and child development, vocational education, supplemental grants, and mine area restoration. This single allocation was composed of two parts: (1) the base amount, set at 80 percent of the fiscal year 1974 program level and (2) the subregional amount, computed so as to give a proportionately larger share to the Central Appalachian states. This subregional amount is based on a modified version of the formula previously used to allocate supplemental grants (Section 214) funds to each state. The Section 214 formula takes into account the population, land area and per capita income of each state. To determine the subregional amount for each state, the Section 214 formula was altered to make the allocation for the Central Appalachian states 44 percent higher than it would have been using the straight Section 214 formula. This reflected the fact that per capita income in

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Table 8
Appalachian Regional Development Programs Appropriations by Program
(in thousands of dollars)

Section or Act and Program	For Two-Year Fiscal Period				By Fiscal Year			Cumulative through 1978	1979 to Date (as of 12/31/78)
	1965-66-67	1968-69	1970-71	1972-73	1974-75	1976-77	1978		
Area Development Programs	—	—	—	—	$125,000	$235,000	$105,000	$1,278,791	$128,000
202 Health Demonstration	$ 23,500	$ 21,400	$ 76,000	$ 94,000	43,000	—[7]	—[7]	—[7]	—[7]
211 Vocational Education Facilities	16,000	26,000	49,000	53,500	25,000	—[7]	—[7]	—[7]	—[7]
214 Supplemental Grants	75,000	66,450[2]	82,500[3]	75,500	34,000	—[7]	—[7]	—[7]	—[7]
205 Mine Area Restoration	22,600[1]	335[2]	9,000	15,000	4,556[6]	—[7]	—[7]	—[7]	—[7]
Fish and Wildlife	1,450[1]	—	—	—	—	—[7]	—[7]	—[7]	—[7]
Subtotal	**$138,550**	**$114,185**	**$216,500**	**$238,000**	**$231,556**	**$235,000**	**$105,000**	**$1,278,791**	**$128,000**
207 Housing Fund	—	2,000	2,000	4,000	1,500	—	—	9,500	—
302 Research and LDD	5,250	4,600	13,000	18,000	16,000	21,500	7,400	85,750	7,700
203 Land Stabilization	10,000	6,115[2]	3,000	—	—	—	—	19,115	—
204 Timber Development	600[1]	—	−42[4]	—	—	—	—	558	—
212 Sewage Treatment	6,000	1,400	—	—	−556[6]	—	—	6,844	—
206 Water Resources Survey	3,000	2,000	—	—	—	—	—	5,000	—
Total, Nonhighway	**$164,400**	**$130,300**	**$234,458**	**$260,000[5]**	**$248,500**	**$256,500**	**$112,400**	**$1,405,558**	**$135,700**
201 Highways	300,000	170,000	350,000	380,000	315,000	384,700	211,300	2,111,000	233,000
Total Program	**$463,400**	**$300,300**	**$584,458**	**$640,000**	**$563,500**	**$641,200**	**$323,700**	**$3,516,558**	**$368,700**
Administrative Expenses	2,900	1,596	1,900[4]	2,330	3,239	4,290	2,083	17,828	2,220
Grand Total	**$465,790**	**$301,896**	**$586,358**	**$642,330**	**$566,739**	**$645,490**	**$325,783**	**$3,534,386**	**$370,920**

[1]Adjusted for transfer to non-Appalachian programs of $400,000 each program.
[2]Adjusted for reprogramming actions.
[3]Includes $8.5 million 1971 Supplemental Appropriations Act for airport projects.
[4]Adjusted for transfer of $42,000 prior year balance to administrative expenses.
[5]Includes $15 million supplemental Agnes Flood appropriation ($11,000 Section 205; $3,500 Section 302; $1,500 Section 207).
[6]Adjusted for transfer of $556,000 from Section 212 to Section 205.
[7]Included in area development program total above.

JAMES DAVIS

These students from the ARC-assisted Muskingum Area Joint Vocational School in Zanesville, Ohio, are learning to be power linemen.

Central Appalachia in 1972 (the most recent year for which figures were then available) was approximately 44 percent below that of the Region as a whole. The largest share of the subregional amount, on a per capita basis, went to the Central Appalachian portions of states—$5.24 per person: the next largest to Southern Appalachia—$2.29 per person; and the smallest to Northern Appalachia—$1.47 per person.

The method of allocating highway funds has remained unchanged. This method has essentially been proportioned upon the remaining dollar amounts needed by each state to complete segments of the highway corridors needing improvement in that state.

No change was proposed in the allocation process for the program of research, demonstration and support of local development districts.

The change in allocation of funds was not accompanied by a change in the type of projects eligible for assistance. The chief effect of the change is to give the states more flexibility in determining their nonhighway funding priorities in a particular year. By combining the four major nonhighway programs into a single allocation, a state could, for example, use all of its base allocation for vocational education, or it might divide the allocation among the projects for each of the four program areas in whatever proportion best fitted its development strategy in a particular year.

Sources of Funding

A look at the distribution of total costs among the various sources of funds (Table 9 on page 50) reveals the degree to which the federal-state partnership is reflected in the funding sources as well as in the decision-making process. Appalachian and other federal funds have made up 58.9 percent of the total costs of all Appalachian projects (59.6 percent of highway projects and 58.4 percent of nonhighway projects). The remainder of the money comes from state, local and/or private funds, so that the two partners, the federal government on the one hand and the state-local-private funds on the other, have invested almost equally in the program.

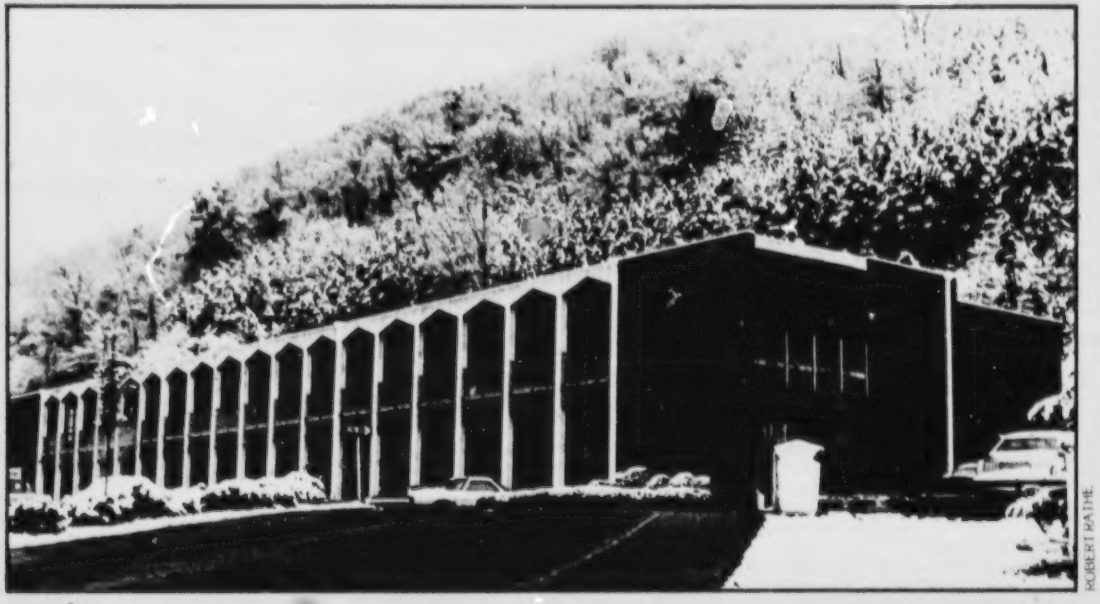
During 1978, the share of federal funding increased slightly, reflecting past federal legislation authorizing increased federal shares for grant-in-aid programs. For this fiscal year, federal funding of the highway program comprised 70.7 percent, as compared to a cumulative percentage of 59.6 percent since the beginning of the program. The federal share of the nonhighway program was also higher, 65 percent, compared to a cumulative federal share of 58.4 percent.

The pattern of distribution of approved projects by category for the Region as a whole shows that nearly half the ARC funds (46 percent) went in 1978 to one of the Commission's highest priorities, the development of human resources. Project approvals of all nonhighway projects totaled nearly $126 million in 1978. About $59 million of these ARC funds was used for human service (health, child

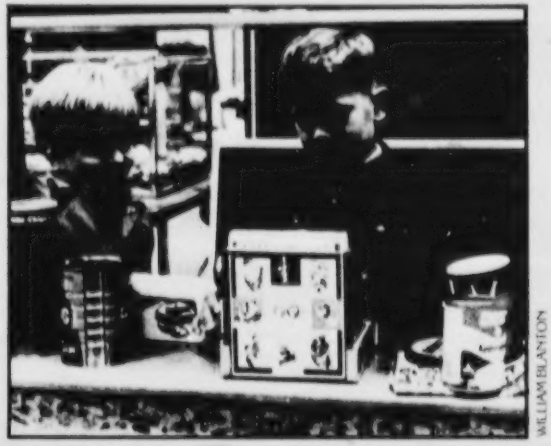
Table 9
Distribution of Total Costs Among Various Sources of Funds for Approved Projects
(in millions)

	Highway Projects								Nonhighway Projects							
	1978 Program				Cumulative through 1978				1978 Program				Cumulative through 1978			
Appalachian Funds	$210.5	70.7%			$2,095.6	59.6%			$125.9	28.5%			$1,423.3	31.2%		
Other Federal Funds	—	—			—	—			160.8	36.5			1,214.6	27.2		
Total Federal			$210.5	70.7%			$2,095.6	59.6%			$286.7	65.0%			$2,664.8	58.4%
State Funds	86.0	28.9			1,412.7	40.2			23.8	5.4			431.5	9.5		
Local Funds	1.3	0.4			7.5	0.2			130.9	29.6			1,466.3	32.1		
Total			87.3	29.3			1,420.2	40.4			154.7	35.0			1,897.8	41.6
Total Eligible*			$297.8	100.0%			$3,515.8	100.0%			$441.4	100.0%			$4,562.6	100.0%

*Ineligible costs of projects, which are not eligible for matching federal grants, must be borne by the applicants.
Note: Through September 30, 1978, there was approximately $509 million in ineligible projects costs for nonhighway programs.



ROBERT KATHE



WILLIAM BLANTON

This vocational school in Hazard, Kentucky (LEFT), and the day-care center in Asheville, North Carolina (ABOVE), are recipients of ARC assistance.

development, vocational and other education) programs. In the human services area, the health programs had the largest amount of funding approved: $24 million, or nearly 19 percent, with vocational education utilizing nearly $16.5 million, or over 13 percent (see Table 10 below).

The program category where the greatest amount of funding was approved was community development, with over $41 million, or about 33 percent of the total amount. The community development program led in ability to attract or to be used with other federal and state and local funds, with $41.2 million of ARC funds resulting in a total eligible project cost level of $270 million. While this is an admirable showing, it should be noted that the totals are high in part because of a number of large waste treatment projects where the ARC contribution, when compared to large EPA and local contributions, was quite modest.

Supplemental Grants

One of the features of the Appalachian legislation specifically designed to help Appalachian states and local communities participate in more federal programs for construction of public facilities is the supplemental grant program authorized under Section 214.

Because many Appalachian states and communities have low tax bases, it is difficult for them to come up with the matching share required by law in many programs before federal funds can be granted. Although they were eligible in all other ways for grants for the construction of basic public facilities, before the existence of the ARC they often could not take advantage of a number of federal programs because they could not provide the matching funds.

Under Section 214, the federal share in grant programs may be raised from the usual 30 to 66 percent to as much as 80 percent of the cost of construction, so that a state or community can participate by putting up as little as 20 percent.

In 1971 the Act was amended to permit Section 214 funds to be used also as first-dollar grants—that is, grants where an applicant, though qualified, is unable to obtain a basic federal grant because of insufficient federal funds. The Commission approves first-dollar grants only when (1) the applicant has made every reasonable effort to obtain funding from other sources, (2) funds not only are currently unavailable from the basic agency, but also are unlikely to be available for some time, and (3) the project is important to a multicounty plan, and its completion necessary if the state development program is to be implemented in an orderly fashion. First-dollar grants comprised 32 percent of all Section 214 funds in 1978, about the same as 1977. In 1978 these grants totaled $14.1 million for 57 projects (see Table 11 on page 52), of which 48 percent were water and sewer facilities.

Table 10
Projects Approved in Fiscal Year 1978 by Program Category
(in thousands of dollars)

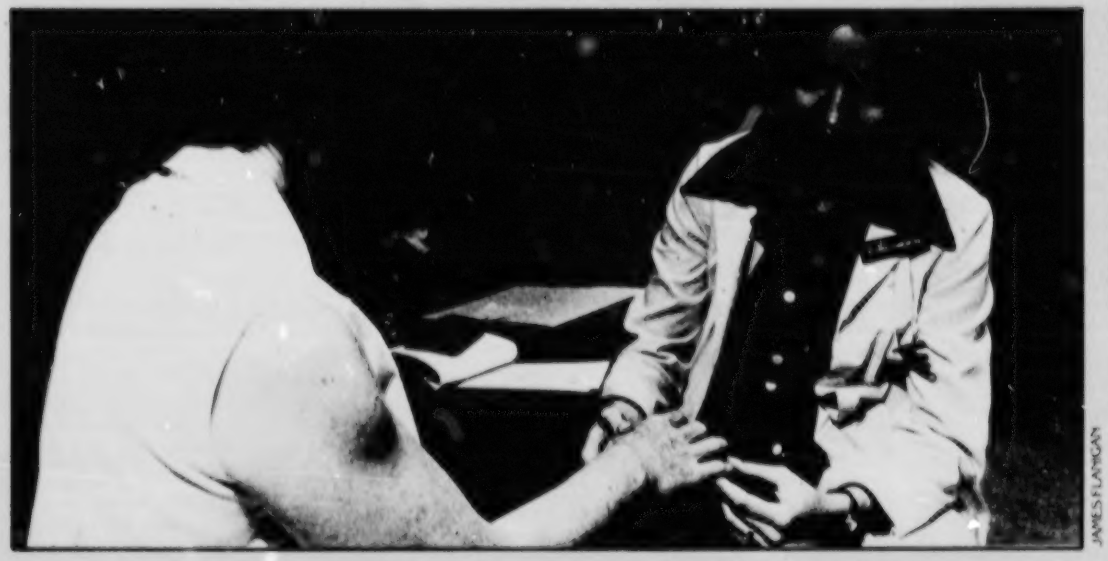
Program Category	ARC Funds	Percentage of Total ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$ 23,563	18.7%	$ 1,192	$ 23,180	$ 47,935
Child Development	12,100	9.6	5,744	8,803	26,647
Vocational Education	16,499	13.1	751	17,158	34,408
Other Education	6,319	5.0	251	2,853	9,424
Community Development	41,240	32.8	143,404	85,395	270,039
Housing	6,260	5.0	7,933	4,242	18,435
Energy, Environment and Natural Resources	3,873	3.1	0	3,469	7,342
Special Demonstrations and Other Programs	9,223*	7.3	1,370	7,637	18,230
Local Development District Planning and Administration	4,967	3.9	0	1,718	6,685
Research and Technical Assistance	1,875**	1.5	125	211	2,210
Total	**$125,919**	**100.0%**	**$160,770**	**$154,668**	**$441,356**

*Includes $259 thousand in Commission-sponsored demonstrations.
**Includes $1,565 thousand in Commission-sponsored research and technical assistance.

Columns may not add because of rounding.

Table 11
Types of First-Dollar Projects Approved under Section 214 in Fiscal Year 1978

Type of Project	Number of Projects	Dollar Amount (In thousands)
Health Facilities	5	$ 1,195
Sewage Treatment	7	1,419
Water	14	4,639
Water and Sewer	2	765
Solid Waste	5	476
Neighborhood Facilities	1	400
Higher Education and ETV	2	688
Library	8	1,141
Industrial Site Development	8	2,778
Other	5	572
Total	**57**	**$14,070**



JAMES FLANIGAN

BILL RUTHERFORD/ARC

(LEFT) A doctor in an ARC-funded Pennsylvania family practice rural-residency program examines a patient. (ABOVE) Hikers wind their way along an eastern Kentucky trail built with LDD and ARC assistance.

Table 12
Supplemental Grant Projects Approved by Type of Program
(in thousands of dollars)*

	1978			Cumulative through 1978		
	No.	Amount	Percent	No.	Amount	Percent
Community Development						
Water Systems and Combined Water Sewer Systems	70	$22,437	47.4%	411	$109,714	21.0 %
Sewage Systems	36	9,999	21.1	368	73,050	14.0
Low- and Moderate-Income Housing and Energy-Related Housing	0	0	0	3	344	.07
Recreation and Tourism	13	2,166	4.6	118	17,836	3.4
Industrial Site Development	14	3,966	8.3	45	11,136	2.1
Community Improvement	7	2,198	4.6	205	28,080	5.4
Solid Waste Disposal Systems	5	476	1.0	36	6,315	1.2
Subtotal	**145**	**$41,240**	**87.1%**	**1,186**	**$246,475**	**47.3%**
Education						
Vocational Education	24	$ 2,976	6.3%	558	$ 81,799	15.7
Higher Education	2	174	0.4	242	57,840	11.1
Libraries	9	1,166	2.5	138	14,876	2.9
NDEA	0	0	0	70	6,809	1.3
ETV	1	518	1.1	29	7,765	1.5
Subtotal	**36**	**$ 4,834**	**10.2%**	**1,037**	**$169,089**	**32.4 %**
Health Facilities	6	$ 1,285	2.7%	448	$105,573	20.2 %
Child Development	0	0		1	338	.06
Total	**187**	**$47,359**	**100.0%**	**2,672**	**$521,475**	**100.0 %**

*Columns may not add because of rounding.

During fiscal 1978, $47.4 million was approved in all Section 214 grants, including the first-dollar grants. The Appalachian states have used the supplemental grant funds under this program to procure many types of public facilities: vocational education schools, colleges, libraries, health facilities, sewage treatment plants, airports and educational television. Table 12 at the left indicates the proportion of funds approved for the various types of programs.

Each year the Commission utilizes Section 214 funds in a slightly different manner, in accordance with priorities determined at the time by the Appalachian states. The proportion used for water, sewer and sewage treatment facilities, which previously amounted to about 20 percent of these funds, rose steadily—from 38 percent in fiscal year 1973 to nearly 70 percent in fiscal year 1978. Health facilities projects, on the other hand, which once accounted for about 26 percent of these funds, utilized about 17 percent in 1975 and dropped to 3 percent in 1978. The share of education projects has dropped from an earlier 47 percent to 10 percent in 1978. It should be noted, however, that these amounts do not show the complete amounts committed for construction of health and vocational education facilities since these may also be funded under ARC's basic health and vocational education programs. ■

Appendix A

Project Totals Approved in Fiscal Year 1978

October 1, 1977 - September 30, 1978

By State and Program Category

Alabama	56
Georgia	58
Kentucky	60
Maryland	62
Mississippi	64
New York	66
North Carolina	68
Ohio	70
Pennsylvania	72
South Carolina	74
Tennessee	76
Virginia	78
West Virginia	80

page 54 removed - nonreproducible photo

Alabama

Population	1970	1977	Percentage of Change 1970-77
State Total	3,444,354	3,689,800	7.1%
Total of Counties in Appalachia	2,137,404	2,285,000	6.9%
Bibb	13,812	14,900	7.9
Blount	26,853	33,400	24.4
Calhoun	103,092	112,300	8.9
Chambers	36,896	37,800	2.5
Cherokee	15,606	17,700	13.4
Chilton	25,180	28,800	12.5
Clay	12,636	13,200	4.5
Cleburne	10,996	11,800	7.2
Colbert	49,632	50,500	1.7
Coosa	10,662	11,300	5.9
Cullman	52,445	59,500	13.4
De Kalb	41,981	49,500	17.9
Elmore	33,061	40,700	20.9
Etowah	94,144	97,100	3.1
Fayette	16,252	16,500	1.5
Franklin	23,933	26,900	12.4
Jackson	39,202	48,500	23.7
Jefferson	644,991	651,400	1.0
Lamar	14,335	15,500	8.1
Lauderdale	68,111	75,700	11.1
Lawrence	27,281	29,100	6.5
Limestone	41,699	43,400	4.2
Madison	186,540	186,700	.1
Marion	23,788	26,800	12.5
Marshall	54,211	60,400	11.5
Morgan	77,306	84,600	9.4
Pickens	20,326	21,100	3.9
Randolph	18,331	18,700	1.8
St. Clair	27,956	36,100	29.0
Shelby	38,037	52,200	37.2
Talladega	65,280	68,900	5.5
Tallapoosa	33,840	35,600	5.3
Tuscaloosa	116,029	123,900	6.8
Walker	56,249	65,700	16.8
Winston	16,654	20,100	20.6

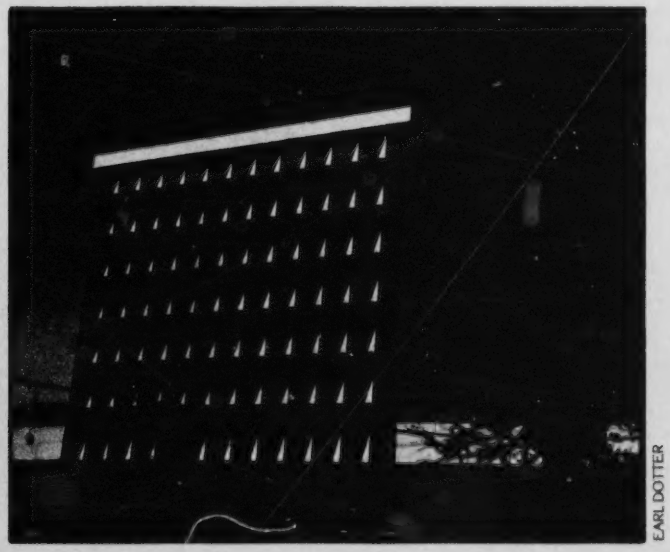
County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates (US Bureau of Census, Series P-26, No. 77-1).

Alabama

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$2,258,066	$ 311,004	$ 3,173,583	$ 5,742,653
Child Development	863,374	0	573,146	1,436,520
Vocational Education	2,940,025	0	1,172,994	4,113,019
Other Education	169,500	0	56,500	226,000
Community Development	2,490,523	9,228,967	5,788,152	17,507,642
Special Demonstrations and Other Programs	406,546	0	586,682	993,228
Local Development District Planning and Administration	463,975	0	154,659	618,634
Research and Technical Assistance	50,000	0	16,667	66,667
Total	**$9,642,009**	**$9,539,971**	**$11,522,383**	**$30,704,363**

DANIEL MCMEANS



EARL DOTTER

(LEFT) The Huntsville Jetplex's cargo terminal is shown in the foreground, with the passenger airport in the background. (ABOVE) This attractive basic science building is located on the Birmingham campus of the University of Alabama. ARC funds have assisted both facilities.

Georgia

Population	1970	1977	Percentage of Change 1970-77
State Total	4,587,930	5,048,200	10.0%
Total of Counties in Appalachia	813,844	997,600	22.6%
Banks	6,833	7,200	6.0%
Barrow	16,859	19,400	14.8
Bartow	32,911	38,000	15.4
Carroll	45,404	53,800	18.6
Catoosa	28,271	34,000	20.1
Chattooga	20,541	22,800	10.8
Cherokee	31,059	41,500	33.6
Dade	9,910	11,600	17.5
Dawson	3,639	4,900	33.5
Douglas	28,659	47,000	63.9
Fannin	13,357	14,700	10.0
Floyd	73,742	79,600	7.9
Forsyth	16,928	22,700	34.4
Franklin	12,784	14,200	11.3
Gilmer	8,956	11,500	28.5
Gordon	23,570	27,600	17.1
Gwinnett	72,349	128,300	77.3
Habersham	20,691	24,300	17.2
Hall	59,405	69,200	16.4
Haralson	15,927	17,700	11.3
Heard	5,354	6,400	18.8
Jackson	21,093	23,500	11.4
Lumpkin	8,728	9,800	12.3
Madison	13,517	15,800	17.2
Murray	12,986	16,900	30.1
Paulding	17,520	23,800	35.6
Pickens	9,620	10,900	13.8
Polk	29,656	31,600	6.5
Rabun	8,327	9,100	9.6
Stephens	20,331	22,600	11.3
Towns	4,565	5,000	9.2
Union	6,811	8,200	20.3
Walker	50,691	53,800	6.1
White	7,742	9,100	17.4
Whitfield	55,108	61,300	11.2

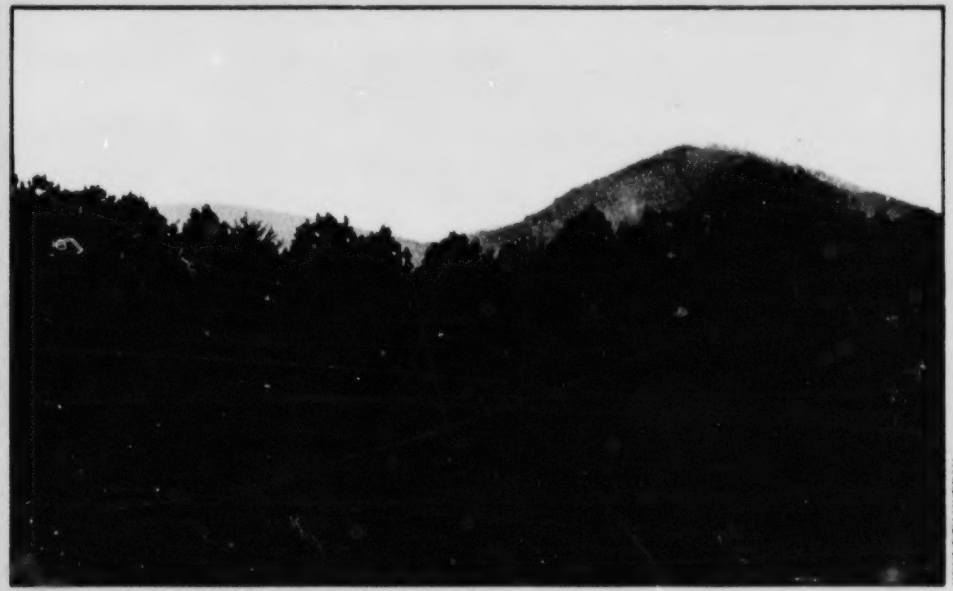
County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates, U.S. Bureau of Census, Series P-26, No. 77-10.

Georgia

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$1,231,076	$ 0	$ 828,231	$ 2,059,307
Child Development	1,886,907	540,589	611,439	3,038,935
Vocational Education	1,795,125	0	650,436	2,445,561
Other Education	739,648	0	541,228	1,280,876
Community Development	940,000	2,171,200	1,963,200	5,074,400
Housing	0	97,000	100,194	197,194
Special Demonstrations and Other Programs	147,683	39,500	14,000	201,183
Local Development District Planning and Administration	400,592	0	136,420	537,012
Total	**$7,141,031**	**$2,848,289**	**$4,845,148**	**$14,834,468**

TOMMY HOOPMAN



KENNETH MURRAY

(LEFT) Nurses who staff the Hamilton Memorial Hospital's R. Carter Pittman special-care nursery, built with the help of ARC, pause in their work at the Dalton facility. (ABOVE) Beautiful scenery is plentiful around Pickens County.

Kentucky

Population

	1970	1977	Percentage of Change 1970-77
State Total	3,220,711	3,458,500	7.4%
Total of Counties in Appalachia	876,501	996,500	13.7%
Adair	13,037	14,300	9.9%
Bath	9,235	9,300	.5
Bell	31,121	33,600	7.9
Boyd	52,376	53,300	1.9
Breathitt	14,221	17,200	21.1
Carter	19,850	23,200	17.00
Casey	12,930	14,100	9.3
Clark	24,090	26,300	9.0
Clay	18,481	21,900	18.2
Clinton	8,174	8,800	8.1
Cumberland	6,850	7,100	3.8
Elliott	5,933	6,100	2.8
Estill	12,752	13,500	6.2
Fleming	11,366	11,800	3.7
Floyd	35,889	43,600	21.5
Garrard	9,457	9,700	2.5
Green	10,350	10,600	2.8
Greenup	33,192	35,900	8.1
Harlan	37,370	41,400	10.9
Jackson	10,005	10,900	8.8
Johnson	17,539	22,300	27.1
Knott	14,698	17,700	20.6
Knox	23,689	28,300	19.6
Laurel	27,386	34,100	24.7
Lawrence	10,726	12,600	17.2
Lee	6,587	7,300	10.3
Leslie	11,623	13,300	14.8
Letcher	23,165	27,700	19.4
Lewis	12,355	13,400	8.3
Lincoln	16,663	18,300	9.9
McCreary	12,548	15,000	19.9
Madison	42,730	48,400	13.3
Magoffin	10,443	12,500	19.4
Martin	9,377	12,100	28.8
Menifee	4,050	4,600	12.5

Monroe	11,642	11,700	.4
Montgomery	15,364	17,900	16.4
Morgan	10,019	10,900	9.0
Owsley	5,023	5,600	10.9
Perry	26,259	29,700	13.0
Pike	61,059	73,400	20.2
Powell	7,704	9,100	17.7
Pulaski	35,234	42,400	20.2
Rockcastle	12,305	13,000	6.0
Rowan	17,010	17,700	4.1
Russell	10,542	11,900	12.6
Wayne	14,268	16,000	12.4
Whitley	24,145	30,500	26.3
Wolfe	5,669	6,400	12.7

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates, U.S. Bureau of Census, Series P-26, No. 77-17.

Kentucky

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$ 2,050,169	$ 290,950	$ 2,262,733	$ 4,603,852
Child Development	84,600	50,218	90,659	225,477
Vocational Education	900,876	0	337,138	1,238,014
Other Education	113,400	0	28,350	141,750
Community Development	3,613,788	10,974,014	10,892,385	25,480,187
Housing	3,055,832	0	557,325	3,613,157
Special Demonstrations and Other Programs	1,472,608	0	1,610,262	3,082,870
Local Development District Planning and Administration	555,500	0	185,169	740,669
Total	**$11,846,773**	**$11,315,182**	**$15,964,021**	**$39,125,976**

TOMMY NOONAN

WILLIAM KUYKENDALL

(LEFT) A picturesque swinging bridge crosses Clover Fork Creek in Harlan County. (ABOVE) Large-flowered or white trillium (trillium grandiflorum) covers many Kentucky slopes.

Maryland

Population

	1970	1977	Percentage of Change 1970-77
State Total	3,923,897	4,138,700	5.5%
Total of Counties in Appalachia	209,349	215,100	2.8%
Allegany	84,044	80,700	-4.0%
Garrett	21,476	26,000	20.9%
Washington	103,829	108,500	4.5%

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates, U.S. Bureau of Census, Series P-26, No. 77-30.

Maryland

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$2,075,636	$ 5,980	$2,743,652	$ 4,825,268
Child Development	311,000	207,207	305,000	823,207
Vocational Education	537,762	3,000	64,000	604,762
Other Education	298,072	0	84,102	382,174
Community Development	1,669,214	1,090,400	944,800	3,704,414
Housing	400,000	0	3,054,640	3,454,640
Special Demonstrations and Other Programs	171,678	10,000	20,633	202,311
Local Development District Planning and Administration	106,000	0	35,334	141,334
Research and Technical Assistance	45,000	0	15,000	60,000
Total	**$5,614,362**	**$1,316,587**	**$7,267,161**	**$14,198,110**

ROBERT J. WITKOWSKI

(LEFT) Cyclists inspect a lock on the Chesapeake and Ohio Canal on the Western Maryland Bicentennial Trail, a project of the LDD, the Tri-County Council. (ABOVE) The new four-lane U.S. 40 makes travel in western Maryland easier than the old route 40 (at the right).

Mississippi

Population

	1970	1977	Percentage of Change 1970-77
State Total	2,216,994	2,389,400	7.8%
Total of Counties in Appalachia	418,644	455,000	8.7%
Alcorn	27,179	29,900	10.1%
Benton	7,505	7,800	3.6
Chickasaw	16,805	17,400	3.2
Choctaw	8,440	9,100	8.4
Clay	18,840	20,200	7.3
Itawamba	16,847	17,600	4.3
Kemper	10,233	11,100	8.3
Lee	46,148	53,200	15.3
Lowndes	49,700	54,400	9.5
Marshall	24,027	26,700	11.2
Monroe	34,043	35,200	3.5
Noxubee	14,288	13,100	8.6
Oktibbeha	28,752	33,200	15.6
Pontotoc	17,363	19,300	11.0
Prentiss	20,133	21,600	7.3
Tippah	15,852	18,700	17.8
Tishomingo	14,840	16,500	10.4
Union	19,086	21,100	10.5
Webster	10,047	10,000	.7
Winston	18,406	18,900	2.9

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates (U.S. Bureau of Census, Series P-26 No. 77-34).

Mississippi

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$ 765,742	$ 53,958	$1,085,425	$ 1,905,125
Child Development	790,222	1,307,221	933,211	3,030,654
Vocational Education	3,157,894	20,000	678,137	3,856,031
Other Education	359,507	7,000	80,396	446,903
Community Development	1,322,727	1,209,823	1,235,968	3,768,518
Housing	130,000	1,420,000	0	1,550,000
Special Demonstrations and Other Programs	155,000	0	28,497	183,497
Local Development District Planning and Administration	267,995	0	80,427	348,422
Total	**$6,949,087**	**$4,018,002**	**$4,122,061**	**$15,089,150**

ROBERT RATHE

(LEFT) Representatives from the local community, the American Medical Student Association and ARC meet to discuss the opening of a new primary care clinic in Shuqualak. (ABOVE) This house is typical of those found throughout much of rural Mississippi.

New York

Population

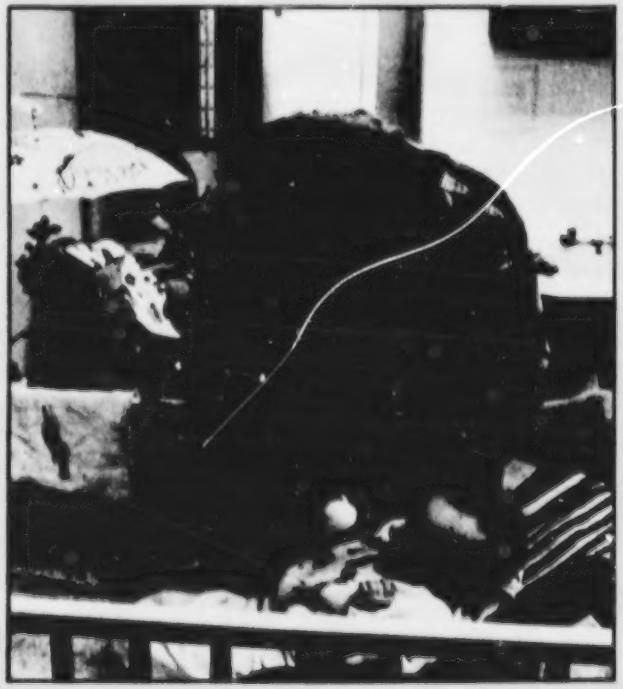
	1970	1977	Percentage of Change 1970-77
State Total	18,241,391	17,923,600	-1.7%
Total of Counties in Appalachia	1,056,552	1,081,700	2.4%
Allegany	46,458	50,500	8.8%
Broome	221,815	219,200	-1.2
Cattaraugus	81,666	84,900	4.0
Chautauqua	147,305	146,600	-.5
Chemung	101,537	99,000	-2.5
Chenango	46,368	48,600	4.8
Cortland	45,894	48,000	4.5
Delaware	44,718	47,500	6.3
Otsego	56,181	57,600	2.6
Schoharie	24,750	28,700	15.8
Schuyler	16,737	17,500	4.5
Steuben	99,546	100,600	1.0
Tioga	46,513	49,300	6.1
Tompkins	77,064	83,700	8.6

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates, U.S. Bureau of Census, Series P-26, No. 77-A.

New York

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$1,696,684	$ 50,000	$ 1,947,644	$ 3,694,328
Child Development	807,690	217,676	521,874	1,547,240
Vocational Education	542,226	59,725	301,569	903,520
Other Education	1,085,101	45,793	336,248	1,467,142
Community Development	2,154,869	5,527,296	2,754,548	10,436,713
Housing	572,898	0	7,634	580,532
Special Demonstrations and Other Programs	2,196,996	249,578	4,515,698	6,962,272
Local Development District Planning and Administration	217,500	0	72,500	290,000
Total	**$9,273,964**	**$6,150,068**	**$10,457,715**	**$25,881,747**



(LEFT) This young mother and her baby participate in an ARC-funded teenage-parent program in Steuben County. (ABOVE) Jamestown has an active redevelopment and restoration program.

North Carolina

Population

	1970	1977	Percentage of Change 1970-77
State Total	5,084,411	5,525,100	8.7%
Total of Counties in Appalachia	1,038,956	1,130,600	8.8%
Alexander	19,466	22,200	14.1%
Alleghany	8,134	8,800	8.3
Ashe	19,571	20,300	3.8
Avery	12,655	13,900	9.6
Buncombe	145,056	151,200	4.2
Burke	60,364	63,800	5.7
Caldwell	56,699	60,400	6.6
Cherokee	16,330	17,500	7.5
Clay	5,180	5,600	8.0
Davie	18,855	22,300	18.1
Forsyth	215,118	228,000	6.0
Graham	6,562	6,800	3.9
Haywood	41,710	43,800	5.1
Henderson	42,804	51,000	19.1
Jackson	21,593	24,900	15.5
McDowell	30,648	33,800	10.2
Macon	15,788	18,800	19.4
Madison	16,003	17,200	7.5
Mitchell	13,447	14,000	4.0
Polk	11,735	12,900	9.9
Rutherford	47,337	51,100	7.9
Stokes	23,782	29,200	22.7
Surry	51,415	55,600	8.1
Swain	8,835	10,400	17.2
Transylvania	19,713	22,000	11.5
Watauga	23,404	28,700	22.6
Wilkes	49,524	55,000	11.1
Yadkin	24,599	27,000	9.7
Yancey	12,629	14,400	14.1

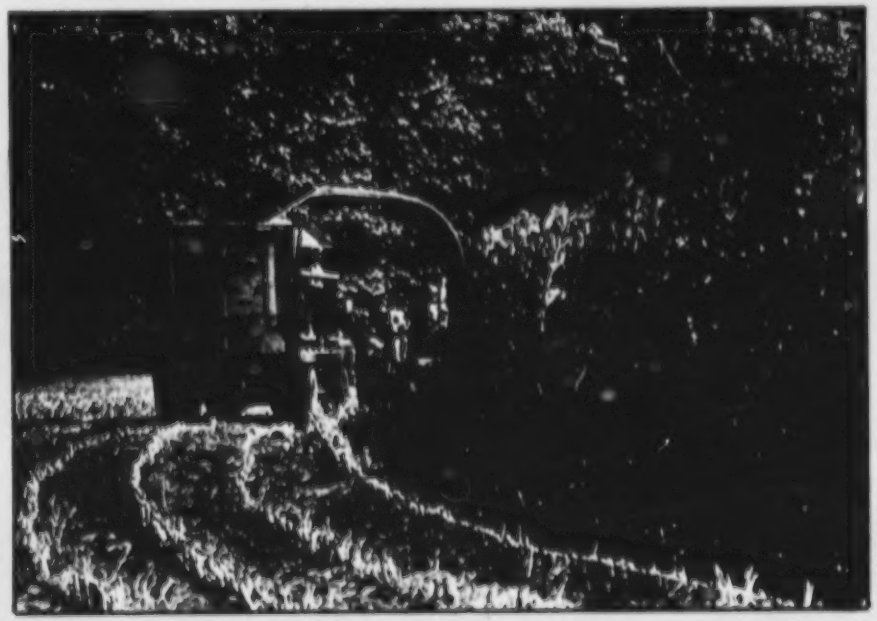
County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Series P-26, No. 77-33

North Carolina

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$1,865,757	$ 0	$ 887,597	$ 2,753,354
Child Development	1,699,181	931,989	1,608,538	4,239,708
Vocational Education	1,435,095	60,390	634,863	2,130,348
Other Education	1,213,563	8,626	571,160	1,793,349
Community Development	861,800	290,000	758,200	1,910,000
Housing	1,250,000	2,570,000	58,040	3,878,040
Special Demonstrations and Other Programs	250,000	41,000	113,715	404,715
Local Development District Planning and Administration	517,000	0	182,634	699,634
Research and Technical Assistance	40,000	0	74,877	114,877
Total	**$9,132,396**	**$3,902,005**	**$4,889,624**	**$17,924,025**

ROBERT RATHE



ROBERT RATHE

Boone is famous for the variety of scenic beauty nearby.

70

Ohio

Population

	1970	1977	Percentage of Change 1970-77
State Total	10,657,423	10,701,100	0.4%
Total of Counties in Appalachia	1,129,855	1,198,800	6.1%
Adams	18,957	22,900	20.7
Athens	55,747	60,900	8.6
Belmont	80,917	82,500	1.9
Brown	26,635	30,700	15.1
Carroll	21,579	25,500	18.2
Clermont	95,372	113,000	19.1
Coshocton	33,486	34,400	2.8
Gallia	25,239	29,800	18.0
Guernsey	37,665	38,900	3.3
Harrison	17,013	17,500	2.9
Highland	28,996	31,900	10.0
Hocking	20,322	22,200	9.2
Holmes	23,024	25,200	9.4
Jackson	27,174	29,800	9.6
Jefferson	96,193	93,600	-2.7
Lawrence	56,868	62,300	9.5
Meigs	19,799	21,800	9.9
Monroe	15,739	16,000	1.8
Morgan	12,375	13,300	7.5
Muskingum	77,826	81,100	4.2
Noble	10,428	11,400	9.1
Perry	27,434	28,500	3.9
Pike	19,114	21,000	9.7
Ross	61,211	61,800	1.0
Scioto	76,951	81,900	6.5
Tuscarawas	77,211	80,100	3.7
Vinton	9,420	10,600	12.7
Washington	57,160	59,700	4.4

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates, U.S. Bureau of Census, Series P-26, No. 77-45.

Ohio

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$2,169,704	$ 0	749,051	$ 2,918,755
Child Development	1,634,428	1,130,714	1,252,429	4,017,571
Vocational Education	377,382	0	75,486	452,868
Other Education	526,372	190,000	312,668	1,029,040
Community Development	1,817,160	2,637,739	3,757,290	8,212,189
Housing	0	0	4,856	4,856
Special Demonstrations and Other Programs	117,000	0	28,834	145,834
Local Development District Planning and Administration	195,393	0	38,481	233,874
Total	**$6,837,439**	**$3,958,453**	**$5,219,095**	**$17,014,987**

TOMMY NOONAN

TOMMY NOONAN

(LEFT) Women stack plastic bags at the Great Plains Bag Company in New Philadelphia. (ABOVE) Scenes like this are familiar in Appalachian Ohio's gently rolling countryside.

Pennsylvania

Population

	1970	1977	Percentage of Change 1970-77
State Total	11,800,766	11,785,200	-0.1%
Total of Counties in Appalachia	5,930,522	5,924,600	-0.1%
Allegheny	1,605,133	1,493,600	-6.9%
Armstrong	75,590	75,400	-.2
Beaver	208,418	207,400	-.5
Bedford	42,353	43,000	1.5
Blair	135,356	134,200	-.8
Bradford	57,962	60,700	4.7
Butler	127,941	141,200	10.4
Cambria	186,785	187,800	.6
Cameron	7,096	6,800	-3.6
Carbon	50,573	52,200	3.3
Centre	99,267	109,700	10.5
Clarion	38,414	41,600	8.4
Clearfield	74,619	78,900	5.7
Clinton	37,721	37,600	-.4
Columbia	55,114	59,400	7.7
Crawford	81,342	85,200	4.7
Elk	37,770	36,400	-3.5
Erie	263,654	271,600	3.0
Fayette	154,667	156,400	1.1
Forest	4,926	5,300	7.9
Fulton	10,776	11,600	7.5
Greene	36,090	39,100	8.5
Huntingdon	39,108	39,800	1.7
Indiana	79,451	87,000	9.5
Jefferson	43,695	47,200	8.0
Juniata	16,712	18,300	9.6
Lackawanna	234,504	232,400	-.9
Lawrence	107,374	106,400	-1.0
Luzerne	341,956	338,600	-1.0
Lycoming	113,296	113,200	-.1
McKean	51,915	52,000	.2
Mercer	127,225	126,500	-.6
Mifflin	45,268	44,500	-1.8
Monroe	45,422	57,700	27.0
Montour	16,508	16,600	.8
Northumberland	99,190	98,800	-.4

Perry	28,615	33,500	17.0
Pike	11,818	14,300	20.9
Potter	16,395	16,800	2.3
Schuylkill	160,089	157,600	-1.6
Snyder	29,269	31,100	6.4
Somerset	76,037	79,900	5.0
Sullivan	5,961	6,000	.1
Susquehanna	34,344	37,100	8.1
Tioga	39,691	41,200	3.8
Union	28,603	30,900	7.9
Venango	62,353	63,200	1.3
Warren	47,682	46,900	-1.7
Washington	210,876	213,600	1.3
Wayne	29,581	34,100	15.4
Westmoreland	376,935	379,900	.8
Wyoming	19,082	24,400	27.7

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates, U.S. Bureau of Census, Series P-26, No. 77-38.

Pennsylvania

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$ 3,169,826	$ 0	$ 4,017,329	$ 7,187,155
Child Development	1,922,711	586,245	1,031,024	3,539,980
Vocational Education	596,603	608,121	4,699,042	5,903,766
Other Education	33,675	0	11,350	45,025
Community Development	6,084,559	71,575,186	22,567,811	100,227,556
Housing	0	3,845,800	399,669	4,245,469
Energy, Environment and Natural Resources	3,872,958	0	3,469,320	7,342,278
Special Demonstrations and Other Programs	620,260	125,000	126,093	871,353
Local Development District Planning and Administration	656,103	0	245,221	901,324
Research and Technical Assistance	175,000	125,000	69,333	369,333
Total	**$17,131,695**	**$76,865,352**	**$36,636,192**	**$130,633,239**

RICHARD BLOOM

RUTH SILVERMAN

(LEFT) The Humboldt Industrial Park in Hazelton, developed by CAN-DO, Inc., helps stimulate the area's economy. (ABOVE) A pharmacist works in the Shade Mountain Health Center in Mount Pleasant Mills, where ARC funds have helped establish a rural family-practice residency program.

South Carolina

Population

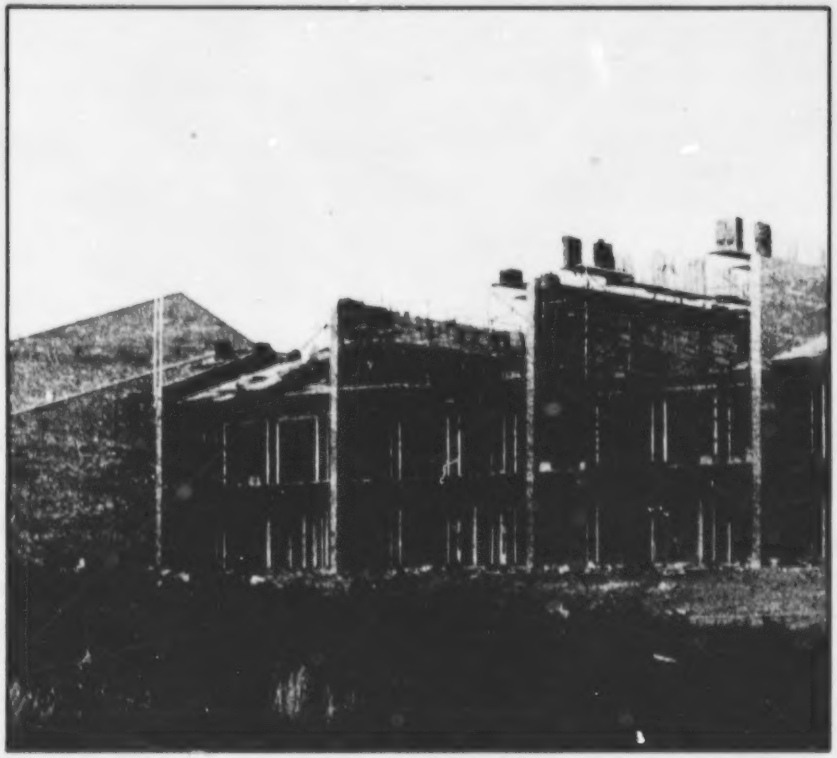
	1970	1977	Percentage of Change 1970-77
State Total	2,590,835	2,875,700	11.0%
Total of Counties in Appalachia	656,447	729,300	11.1%
Anderson	105,474	116,600	10.5%
Cherokee	36,791	40,900	11.3
Greenville	240,774	265,100	10.1
Oconee	40,728	45,400	11.5
Pickens	58,956	69,300	17.5
Spartanburg	173,724	192,000	10.5

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates (U.S. Bureau of the Census, Series P-26, No. 77-40).

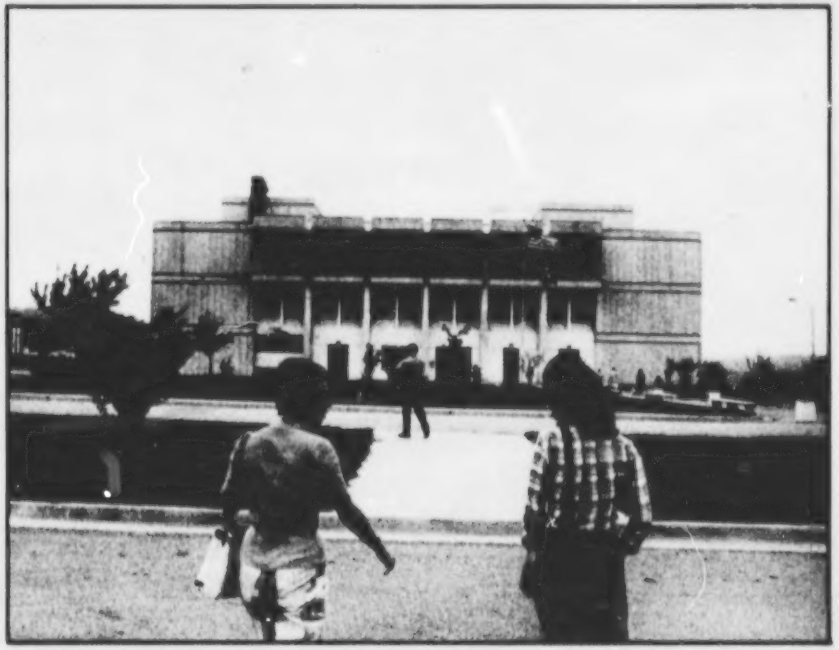
South Carolina

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$2,437,797	$ 310,728	$4,044,698	$ 6,793,223
Child Development	801,985	27,996	637,776	1,467,757
Vocational Education	1,242,550	0	965,173	2,207,723
Other Education	1,179,429	0	493,311	1,672,740
Community Development	1,996,141	1,704,663	2,514,564	6,215,368
Special Demonstrations and Other Programs	189,525	0	97,175	286,700
Total	**$7,847,427**	**$2,043,387**	**$8,752,697**	**$18,643,511**



KENNETH MURRAY



KENNETH MURRAY

(LEFT) These townhouses under construction at Hartwell Lake are slated to become second-home condominiums. (ABOVE) The ARC-assisted Greenville Vocational-Technical School offers a wide selection of useful courses to its students.

Tennessee

Population

	1970	1977	Percentage of Change 1970-77
State Total	3,926,018	4,299,300	9.5%
Total of Counties in Appalachia	1,734,503	1,930,200	11.3%
Anderson	60,800	65,200	8.1
Bledsoe	7,643	8,700	13.4
Blount	63,744	72,900	14.3
Bradley	50,686	60,400	19.3
Campbell	26,045	32,100	23.1
Cannon	8,467	9,500	11.8
Carter	43,259	46,100	6.6
Claiborne	19,420	25,200	29.9
Clay	6,624	6,900	4.1
Cocke	25,283	27,900	10.2
Coffee	32,572	35,100	7.7
Cumberland	20,733	25,600	23.5
DeKalb	11,151	12,700	14.0
Fentress	12,593	14,000	11.2
Franklin	27,289	29,800	9.3
Grainger	13,948	16,100	15.8
Greene	47,630	51,500	8.1
Grundy	10,631	12,500	17.8
Hamblen	38,696	44,500	14.9
Hamilton	255,077	273,400	7.2
Hancock	6,719	6,500	-2.8
Hawkins	33,757	37,700	11.8
Jackson	8,141	8,800	8.7
Jefferson	24,930	28,900	16.0
Johnson	11,569	13,700	18.3
Knox	276,293	299,800	8.5
Loudon	24,266	26,900	10.7
McMinn	35,462	38,900	9.6
Macon	12,315	14,500	18.0
Marion	20,577	22,700	10.4
Meigs	5,219	6,800	29.4
Monroe	23,475	26,400	12.4
Morgan	13,619	14,900	9.5
Overton	14,866	16,300	10.0
Pickett	3,774	4,000	6.3
Polk	11,669	12,600	8.2

Putnam	35,487	41,400	16.5
Rhea	17,202	21,500	25.1
Roane	38,883	43,200	11.0
Scott	14,762	17,000	15.2
Sequatchie	6,331	7,600	20.7
Sevier	28,241	35,800	26.6
Smith	12,509	13,000	3.8
Sullivan	127,329	137,300	7.8
Unicoi	15,254	16,400	7.2
Union	9,072	11,200	23.9
Van Buren	3,758	4,100	8.5
Warren	26,972	30,300	12.4
Washington	73,924	83,300	12.6
White	16,329	18,700	14.3

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates P-26, No. 77-42

Tennessee

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$ 757,346	$ 169,250	$ 928,736	$ 1,855,332
Child Development	627,063	523,944	847,226	1,998,233
Other Education	117,600	0	161,607	279,207
Community Development	7,456,280	870,000	10,335,058	18,661,338
Housing	333,767	0	0	333,767
Special Demonstrations and Other Programs	2,205,966	0	76,043	2,282,009
Local Development District Planning and Administration	439,999	0	146,668	586,667
Total	**$11,938,021**	**$1,563,194**	**$12,495,338**	**$25,996,553**

KENNETH MURRAY

KENNETH MURRAY

(LEFT) Youngsters enjoy a visit to Bays Mountain nature preserve in Kingsport. ARC funds have supported this environmental-education project. (ABOVE) The Museum of Appalachia at Norris preserves buildings and tools from Appalachia's past.

Virginia

Population

	1970	1977	Percentage of Change 1970-77
State Totals	4,651,448	5,134,500	10.4%
Total of Counties in Appalachia	470,265	523,400	11.3%
Alleghany	12,461	12,500	.3%
Bath	5,192	5,400	4.4
Bland	5,423	6,100	11.9
Botetourt	18,193	21,400	17.6
Buchanan	32,071	35,400	10.4
Carroll	23,092	24,100	4.3
Craig	3,524	4,000	12.9
Dickenson	16,077	20,000	24.3
Floyd	9,775	10,600	8.6
Giles	16,741	16,600	-1.0
Grayson	15,439	15,500	.5
Highland	2,529	2,500	-1.0
Lee	20,321	25,900	27.6
Pulaski	29,564	32,600	10.4
Russell	24,533	27,800	13.2
Scott	24,376	25,100	2.9
Smyth	31,349	32,700	4.4
Tazewell	39,816	49,300	23.8
Washington	40,835	41,500	1.7
Wise	35,947	44,700	24.3
Wythe	22,139	23,900	7.9
Bristol City*	14,857	20,900	40.0
Clifton Forge City*	5,501	4,900	-11.7
Covington*	10,060	9,000	-10.1
Galax City*	6,278	6,600	5.8
Norton City	4,172	4,500	7.8

*Independent Cities

County figures for 1970 are from the 1970 Census; for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates, U.S. Bureau of Census, Series P-26, No. 77-46.

Virginia

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$ 515,683	$ 0	$ 86,989	$ 602,672
Child Development	290,623	3,000	88,613	382,236
Vocational Education	836,060	0	632,142	1,468,202
Other Education	42,185	0	17,315	59,500
Community Development	3,368,900	2,618,800	7,339,700	13,327,400
Housing	17,500	0	0	17,500
Special Demonstrations and Other Programs	715,323	905,000	364,837	1,985,160
Local Development District Planning and Administration	448,000	0	184,660	632,660
Total	**$6,234,274**	**$3,526,800**	**$8,714,256**	**$18,475,330**

WILLIAM BLANTON

(LEFT) Groundbreaking ceremonies are held in Troutdale for the community health clinic built there after an ARC-funded circuit-riding administrator helped locate a physician for the clinic. (ABOVE) A miner repairs machinery in the Hurricane Creek mine in Carbo.

West Virginia

Population

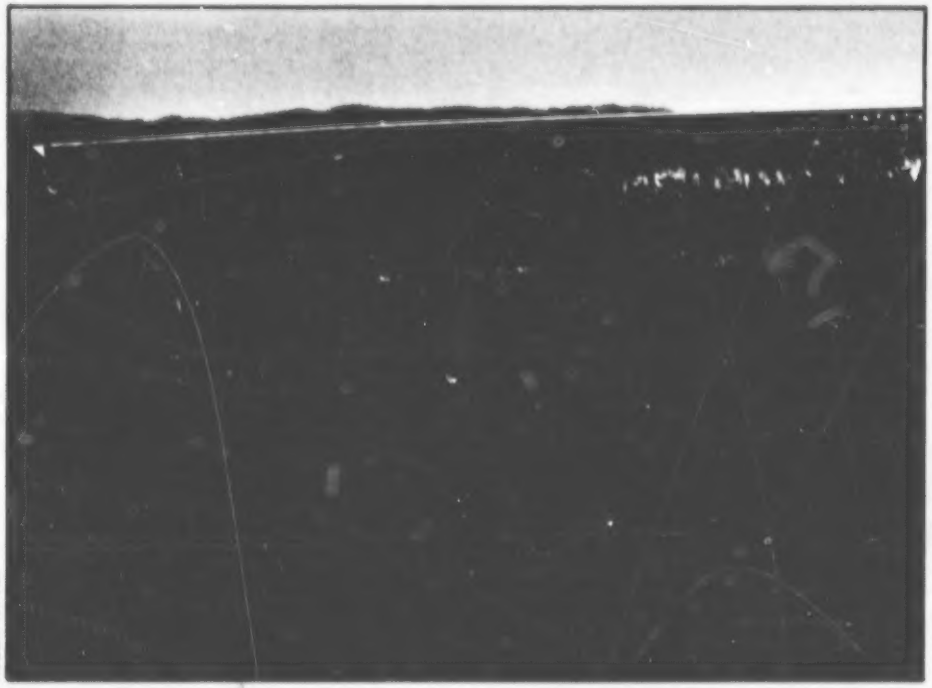
	1970	1977	Percentage of Change 1970-77
State Total	1,744,237	1,859,400	6.6%
Total of Counties in Appalachia	1,744,237	1,859,400	6.6%
Barbour	14,030	16,400	16.7%
Berkeley	36,356	41,900	15.2
Boone	25,118	30,000	19.4
Braxton	12,666	13,200	3.9
Brooke	30,443	30,800	1.1
Cabell	106,918	105,400	-1.4
Calhoun	7,046	8,200	16.4
Clay	9,330	10,500	12.1
Doddridge	6,389	7,000	10.0
Fayette	49,532	55,600	12.6
Gilmer	7,782	7,900	1.8
Grant	8,607	9,100	5.2
Greenbrier	32,090	34,900	8.9
Hampshire	11,710	13,700	16.7
Hancock	39,749	40,100	.9
Hardy	8,855	9,500	6.7
Harrison	73,028	76,800	5.2
Jackson	20,903	23,400	11.8
Jefferson	21,280	25,500	19.6
Kanawha	229,515	228,300	-.5
Lewis	17,847	18,100	1.4
Lincoln	18,912	21,600	14.1
Logan	46,269	49,100	6.2
McDowell	50,666	52,700	4.0
Marion	61,356	64,700	5.5
Marshall	37,598	40,000	6.3
Mason	24,306	26,200	7.8
Mercer	63,206	68,200	7.8
Mineral	23,109	25,600	10.7
Mingo	32,780	37,000	12.8
Monongalia	63,714	69,500	9.0
Monroe	11,272	12,400	10.3
Morgan	8,547	9,300	9.1
Nicholas	22,552	26,400	17.2
Ohio	63,439	59,000	-7.0
Pendleton	7,031	7,400	5.7
Pleasants	7,274	8,000	10.5
Pocahontas	8,870	8,900	.3
Preston	25,455	27,700	8.8
Putnam	27,625	32,800	18.9
Raleigh	70,080	82,700	18.0
Randolph	24,596	26,700	8.4
Ritchie	10,145	10,500	3.1
Roane	14,111	15,300	8.5
Summers	13,213	15,000	13.3
Taylor	13,878	15,700	12.8
Tucker	7,447	7,900	6.4
Tyler	9,929	10,300	3.9
Upshur	19,092	22,200	16.1
Wayne	37,581	40,500	7.8
Webster	9,809	11,100	12.9
Wetzel	20,314	20,500	.9
Wirt	4,154	4,400	6.8
Wood	86,818	90,000	3.7
Wyoming	30,095	34,000	13.1

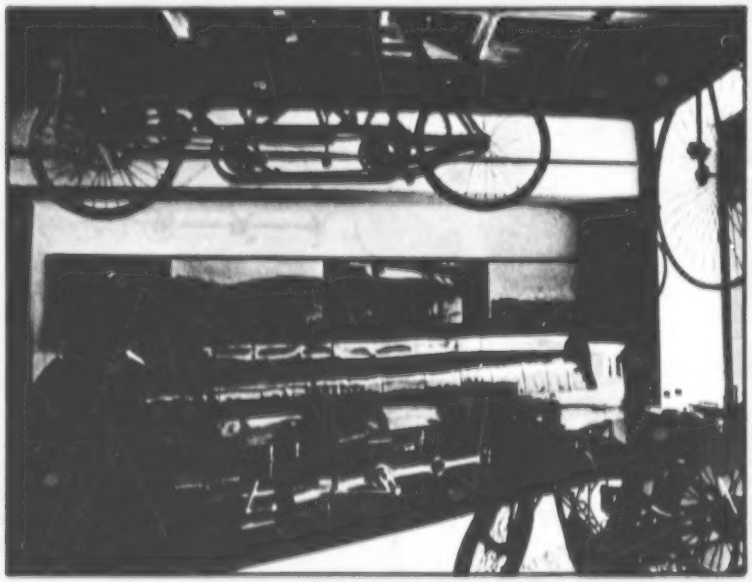
County figures for 1970 are from the 1970 Census, for 1977 they are provisional population estimates from the Federal-State Cooperative Program for Population Estimates, U.S. Bureau of Census, Series P-26, No. 77-48

West Virginia

Project Totals Approved in Fiscal Year 1978

Program Category	ARC Funds	Other Federal Funds	State and Local Funds	Total Eligible Cost
Health	$ 2,475,787	$ 0	$ 424,673	$ 2,900,460
Child Development	379,965	217,205	302,445	899,615
Vocational Education	2,137,000	0	6,947,500	9,084,500
Other Education	504,902	0	174,998	679,900
Community Development	7,400,409	33,505,577	14,527,329	55,433,315
Housing	500,000	0	59,786	559,786
Special Demonstrations and Other Programs	315,829	0	54,835	370,664
Local Development District Planning and Administration	699,341	0	255,455	954,796
Total	**$14,413,233**	**$33,722,782**	**$22,747,021**	**$70,883,036**





ROBERT J. WITKOWSKI

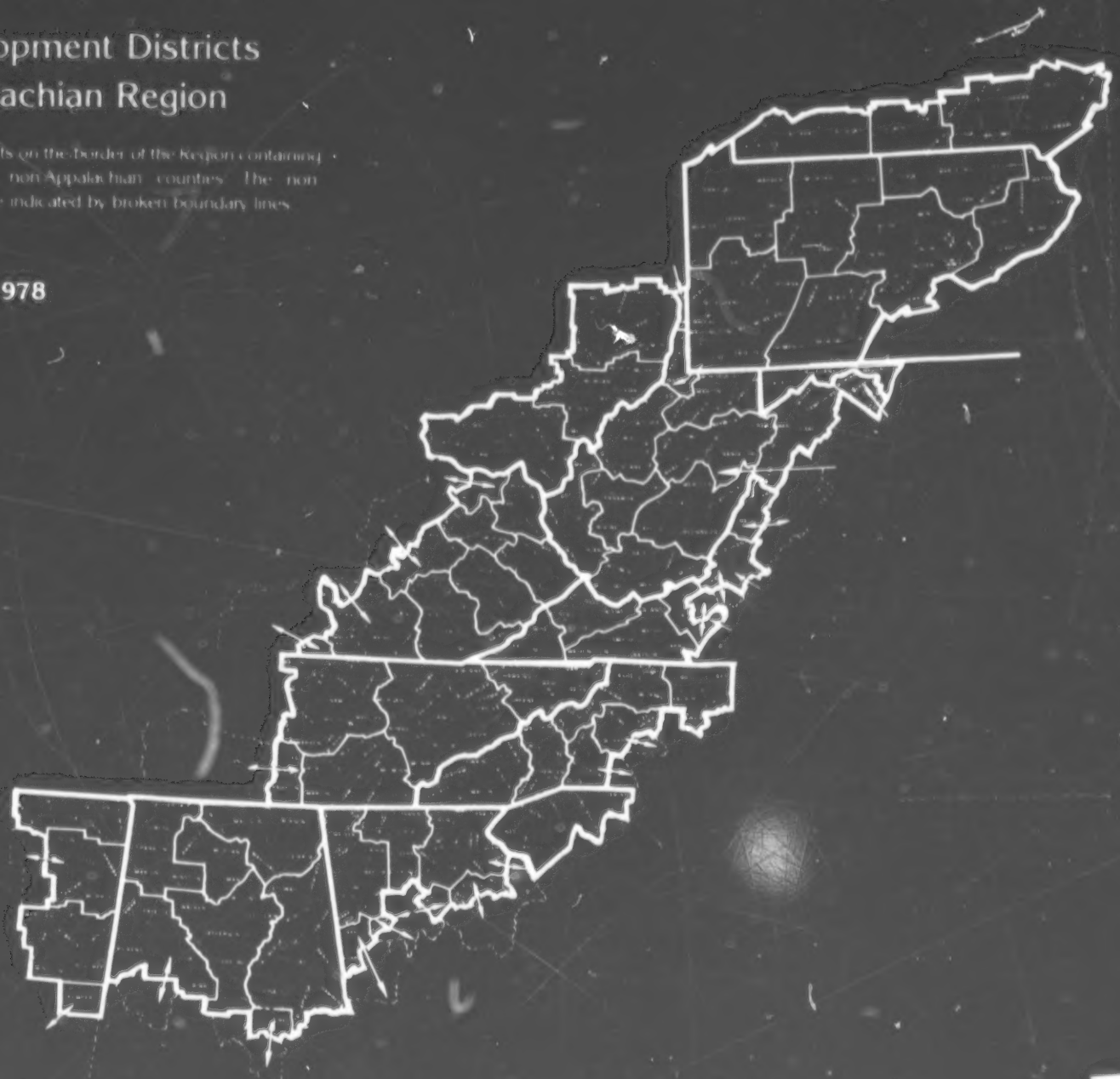
(LEFT) The New River bridge, the largest road project of the Appalachian Development Highway System, stretches high above the river in Fayette County. (ABOVE) West Virginia memorabilia fill the museum at the state's Science and Culture Center in Charleston.

82

Local Development Districts in the Appalachian Region

This map includes districts on the border of the region containing both Appalachian and non-Appalachian counties. The non-Appalachian counties are indicated by broken boundary lines.

September 30, 1978



Appendix B

Local Development Districts

See the map on the opposite page.

1A: Northwest Alabama Council of Local Governments
P.O. Box 2603
Muscle Shoals, Alabama 35660
205/383-3861

Counties: Colbert, Franklin, Lauderdale, Marion, Winston

1B: North Central Alabama Regional Council of Governments
P.O. Box 1069
Decatur, Alabama 35601
205/355-4515

Counties: Cullman, Lawrence, Morgan

1C: Top of Alabama Regional Council of Governments
350 Central Bank Bldg.
Huntsville, Alabama 35801
205/533-3333

Counties: DeKalb, Jackson, Limestone, Madison, Marshall

1D: West Alabama Planning and Development Commission
P.O. Box 86
Tuscaloosa, Alabama 35401
205/345-5545

Counties: Bibb, Fayette, Lamar, Pickens, Tuscaloosa (Greene, Hale)

1E: Birmingham Regional Planning Commission
2112 Eleventh Avenue, South
Birmingham, Alabama 35205
205/251-8139

Counties: Blount, Chilton, Jefferson, St. Clair, Shelby, Walker

1F: East Alabama Regional Planning and Development Commission
P.O. Box 2186
Anniston, Alabama 36201
205/237-6741

Counties: Calhoun, Chambers, Cherokee, Clay, Cleburne, Coosa, Etowah, Randolph, Talladega, Tallapoosa

1G: Central Alabama Regional Planning and Development Commission
808 S. Lawrence Street
Montgomery, Alabama 36104
205/262-7316

Counties: Elmore (Autauga, Montgomery)

2A: Coosa Valley Area Planning and Development Commission
3 Broad Street, P.O. Drawer H
Rome, Georgia 30161
404/295-6485

Counties: Bartow, Catoosa, Chattooga, Dade, Floyd, Gordon, Haralson, Paulding, Polk, Walker

2B: Georgia Mountains Planning and Development Commission
P.O. Box 1720
Gainesville, Georgia 30501
404/536-3431

Counties: Banks, Dawson, Forsyth, Franklin, Habersham, Hall, Lumpkin, Rabun, Stephens, Towns, Union, White (Hart)

2C: Chattahoochee-Flint Area Planning and Development Commission
P.O. Box 1363
LaGrange, Georgia 30240
404/882-2956

Counties: Carroll, Heard (Coweta, Meriwether, Troup)

2D: Atlanta Regional Commission
Suite 200
230 Peachtree Street, N.W.
Atlanta, Georgia 30303
404/656-7700

Counties: Douglas, Gwinnett (Clayton, Cobb, DeKalb, Fulton, Rockdale)

2E: Northeast Georgia Area Planning and Development Commission
305 Research Drive
Athens, Georgia 30601
404/548-3141

Counties: Barrow, Jackson, Madison (Clarke, Elbert, Greene, Morgan, Oconee, Oglethorpe, Walton)

2F: North Georgia Area Planning and Development Commission
503 W. Waugh Street
Dalton, Georgia 30720
404/259-2300

Counties: Cherokee, Fannin, Gilmer, Murray, Pickens, Whitfield

Note: Parentheses indicate non-Appalachian counties and independent cities included with the development districts.

3A: Buffalo Trace Area Development District, Inc.
State National Bank Building
Maysville, Kentucky 41056
606/564-6894

Counties: Fleming, Lewis (Bracken, Mason, Robertson)

3B: FIVCO Area Development District
Boyd County Courthouse
P.O. Box 636
Catlettsburg, Kentucky 41129
606/739-5191

Counties: Boyd, Carter, Elliott, Greenup, Lawrence

3C: Bluegrass Area Development District, Inc.
120 E. Reynolds Road
Lexington, Kentucky 40503
606/272-6656

Counties: Clark, Estill, Garrard, Lincoln, Madison, Powell (Anderson, Bourbon, Boyle, Fayette, Franklin, Harrison, Jessamine, Mercer, Nicholas, Scott, Woodford)

3D: Gateway Area Development District, Inc.
P.O. Box 107
Owingsville, Kentucky 40360
606/674-6355

Counties: Bath, Menifee, Montgomery, Morgan, Rowan

3E: Big Sandy Area Development District, Inc.
Tourist Information Center
Prestonsburg, Kentucky 41653
606/886-2374

Counties: Floyd, Johnson, Magoffin, Martin, Pike

3F: Lake Cumberland Area Development District, Inc.
P.O. Box 387
Jamestown, Kentucky 42629
502/343-3154

Counties: Adair, Casey, Clinton, Cumberland, Green, McCreary, Pulaski, Russell, Wayne (Taylor)

3H: Cumberland Valley Area Development District, Inc.
106 Broad Street
London, Kentucky 40741
606/864-7391

Counties: Bell, Clay, Harlan, Jackson, Knox, Laurel, Rockcastle, Whitley

3I: Kentucky River Area Development District, Inc.
P.O. Box 986
Hazard, Kentucky 41701
606/436-3158

Counties: Breathitt, Knott, Lee, Leslie, Letcher, Owsley, Perry, Wolfe

3J: Barren River Area Development District, Inc.
429 E. 10th Street
P.O. Box 2120
Bowling Green, Kentucky 42101
502/781-2381

Counties: Monroe (Allen, Barren, Butler, Edmonson, Hart, Logan, Metcalfe, Simpson, Warren)

4A: Tri-County Council for Western Maryland, Inc.
Suite 510 — Algonquin Motor Inn
Cumberland, Maryland 21502
301/777-2160

Counties: Allegany, Garrett, Washington

5A: Northeast Mississippi Planning Development District
P.O. Box 6D
Booneville, Mississippi 38829
601/728-6248

Counties: Alcorn, Benton, Marshall, Prentiss, Tippah, Tishomingo

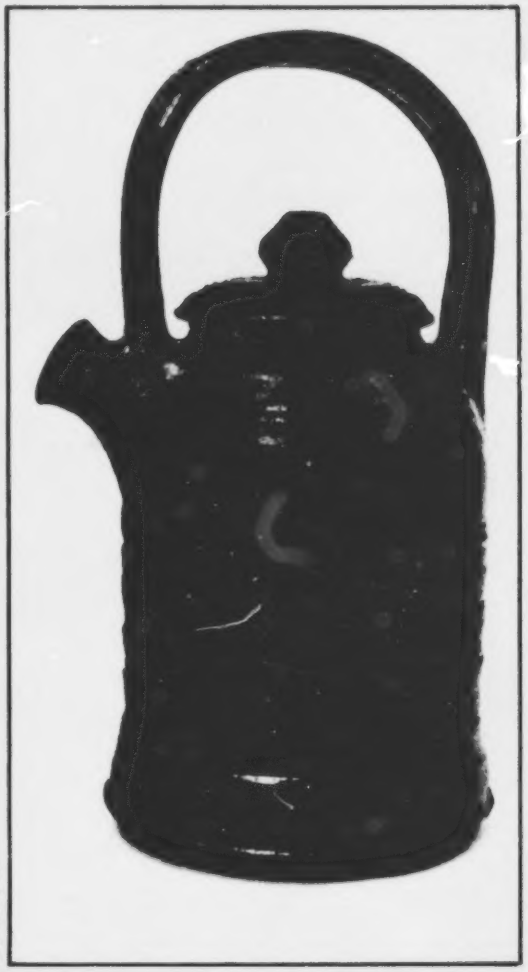
5B: Three Rivers Planning and Development District
99 Center Ridge Drive
Pontotoc, Mississippi 38863
601/489-2415

Counties: Chickasaw, Itawamba, Lee, Monroe, Pontotoc, Union (Calhoun, Lafayette)

5C: Golden Triangle Planning and Development District
P.O. Drawer DN
Mississippi State, Mississippi 39762
601/325-3855

Counties: Choctaw, Clay, Lowndes, Noxubee, Oktibbeha, Webster, Winston

Note: Parentheses indicate non-Appalachian counties and independent cities included with the development districts.



DAVID GAYNES

This stoneware teapot was made by Bill Muerdter, a student in North Carolina's Haywood Technical Institute, in the ARC-funded production crafts program.

5D: East Cental Mississippi Planning and Development District
410 Decatur Street
Newton, Mississippi 39345
601/683-2007

Counties: Kemper (Clarke, Jasper, Lauderdale, Leake, Neshoba, Newton, Scott, Smith)

6A: Southern Tier West Regional Planning and Development Board
41 Main Street
Salamanca, New York 14779
716/945-5303

Counties: Allegany, Cattaraugus, Chautauqua

6B: Southern Tier Central Regional Planning and Development Board
53½ Bridge Street
Corning, New York 14830
607/962-3021 and 962-5092

Counties: Chemung, Schuyler, Steuben

6C: Southern Tier East Regional Planning and Development Board
84 Court Street
Binghamton, New York 13901
607/724-1327

Counties: Broome, Chenango, Cortland, Delaware, Otsego, Schoharie, Tioga, Tompkins

7A: Southwestern North Carolina Planning and Economic Development Commission
P.O. Drawer 850
Bryson City, North Carolina 28713
704/488-2117 and 2118

Counties: Cherokee, Clay, Graham, Jackson, Macon, Swain, Haywood

7B: Land-of-Sky Regional Council
P.O. Box 2175
25 Heritage Drive
Asheville, North Carolina 28802
704/254-8131

Counties: Buncombe, Henderson, Madison, Transylvania

7C: Isothermal Planning and Development Commission
P.O. Box 841
Rutherfordton, North Carolina 28139
704/287-2281

Counties: McDowell, Polk, Rutherfordton (Cleveland)

7D: Region D Council of Governments
P.O. Box 1820
Boone, North Carolina 28607
704/264-5558

Counties: Alleghany, Ashe, Avery, Mitchell, Watauga, Wilkes, Yancey

7E: Western Piedmont Council of Government
30 · 3rd Street, N.W.
Hickory, North Carolina 28601
704/322-9191

Counties: Alexander, Burke, Caldwell (Catawba)

Note: Parentheses indicate non-Appalachian counties and independent cities included with the development districts.

7G: Northwest Economic Development Commission
Government Center
Winston-Salem, North Carolina 27101
919/722-9346

Counties: Davie, Forsyth, Stokes, Surry, Yadkin

8A: Ohio Valley Regional Development Commission
Griffin Hall
740 Second Street
Portsmouth, Ohio 45662
614/354-7795

Counties: Adams, Brown, Clermont, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, Vinton

8B: Buckeye Hills-Hocking Valley Regional Development District, Inc.
216 Putnam Street
St. Clair Bldg., Suite 410
Marietta, Ohio 45750
614/374-9436

Counties: Athens, Hocking, Meigs, Monroe, Morgan, Noble, Perry, Washington

8C: Ohio Mid-Eastern Governments Association
326 Highland Avenue
P.O. Box 130
Cambridge, Ohio 43725
614/439-4471

Counties: Belmont, Carroll, Coshocton, Guernsey, Harrison, Holmes, Jefferson, Muskingum, Tuscarawas

ROBERT J. WITKOWSKI

A young fisherman tries his luck at Swallow Falls State Park in Garrett County, Maryland.

9A: Northwest Pennsylvania Regional Planning and Development Commission
Biery Building, Suite 406
Franklin, Pennsylvania 16323
814/437-3024

Counties: Clarion, Crawford, Erie, Forest, Lawrence, Mercer, Venango, Warren

9B: North Central Pennsylvania Regional Planning and Development Commission
P.O. Box 377
212 Main Street
Ridgway, Pennsylvania 15853
814/773-3162

Counties: Cameron, Clearfield, Elk, Jefferson, McKean, Potter

9C: Northern Tier Regional Planning and Development Commission
507 Main Street
Towanda, Pennsylvania 18848
717/265-9103

Counties: Bradford, Sullivan, Susquehanna, Tioga, Wyoming

9D: Economic Development Council of Northeastern Pennsylvania
P.O. Box 777
Avoca, Pennsylvania 18641
717/655-5581

Counties: Carbon, Lackawanna, Luzerne, Monroe, Pike, Schuylkill, Wayne

(1) Note: Parentheses indicate non-Appalachian counties and independent cities included with the development districts.

9E: Southwestern Pennsylvania Economic Development District
Park Building, Room 1411
355 Fifth Avenue
Pittsburgh, Pennsylvania 15222
412/391-1240

Counties: Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Washington, Westmoreland

9F: Southern Alleghenies Planning and Development Commission
1506 - 11th Avenue, Suite 100
Altoona, Pennsylvania 16601
814/946-1641

Counties: Bedford, Blair, Cambria, Fulton, Huntingdon, Somerset

9G: SEDA-COG
R.D. No. 1
Lewisburg, Pennsylvania 17837
717/524-4491

Counties: Centre, Clinton, Columbia, Juniata, Lycoming, Mifflin, Montour, Northumberland, Snyder, Union (Perry)*

South Carolina

10A: South Carolina Appalachian Council of Governments
Century Plaza Building D
Drawer 6668, 211 Century Drive
Greenville, South Carolina 29606
803/242-9733

Counties: Anderson, Cherokee, Greenville, Oconee, Pickens, Spartanburg

*Geographically in SEDA-COG, administratively in Capitol Regional Planning and Development Agency in Harrisburg.

Tennessee

11A: Upper Cumberland Development District
Burgess Falls Road
Cookeville, Tennessee 38501
615/432-4111

Counties: Cannon, Clay, Cumberland, DeKalb, Fentress, Jackson, Macon, Overton, Pickett, Putnam, Smith, Van Buren, Warren, White

11B: East Tennessee Development District
P.O. Box 19806
Knoxville, Tennessee 37919
615/584-8553

Counties: Anderson, Blount, Campbell, Claiborne, Cocke, Grainger, Hamblen, Jefferson, Knox, Loudon, Monroe, Morgan, Roane, Scott, Sevier, Union

11C: First Tennessee-Virginia Development District
207 N. Boone Street
Johnson City, Tennessee 37601
615/928-0224

Counties: Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicoi, Washington; Washington County, Virginia

11D: South Central Tennessee Development District
805 Nashville Highway
Columbia, Tennessee 38401
615/381-2040

Counties: Coffee, Franklin (Bedford, Giles, Hickman, Lawrence, Lewis, Lincoln, Marshall, Maury, Moore, Perry, Wayne)

11E: Southeast Tennessee Development District
423 James Building
735 Broad Street
Chattanooga, Tennessee 37402
615/266-5781

Counties: Bledsoe, Bradley, Grundy, Hamilton, McMinn, Marion, Meigs, Polk, Rhea, Sequatchie

Virginia

12A: LENOWISCO Planning District Commission
U.S. #58-421W
Duffield, Virginia 24244
703/432-2206

Counties: Lee, Scott, Wise, City of Norton

12B: Cumberland Plateau Planning District
P.O. Box 548
Lebanon, Virginia 24266
703/889-1778

Counties: Buchanan, Dickenson, Russell, Tazewell

12C: Mount Rogers Planning District Commission
1021 Terrace Drive
Marion, Virginia 24354
703/783-5103

Counties: Bland, Carroll, Grayson, Smyth, Washington, Wythe, Cities of Bristol and Galax

12D: New River Valley Planning District Commission
1612 Wadsworth Street
Radford, Virginia 24141
703/639-9313

Counties: Floyd, Giles, Pulaski (Montgomery and City of Radford)

12E: Fifth Planning District Commission
P.O. Drawer 2569
145 W. Campbell Avenue
Roanoke, Virginia 24010
703/343-4417

Counties: Alleghany, Botetourt, Craig and Cities of Clifton Forge and Covington (Roanoke County and Cities of Roanoke and Salem)

12F: Central Shenandoah Planning District Commission
119 W. Frederick Street
P.O. Box 1337
Staunton, Virginia 24401
703/885-5174

Counties: Bath, Highland (Augusta, Rockbridge, Rockingham and Cities of Buena Vista, Harrisonburg, Lexington, Staunton and Waynesboro)

13A: Region 1 Planning and Development Council
P.O. Box 1442
Princeton, West Virginia 24740
304/425-9508

Counties: McDowell, Mercer, Monroe, Raleigh, Summers, Wyoming

13B: Region 2 Planning and Development Council
1221-6th Avenue
Huntington, West Virginia 25701
304/529-3357

Counties: Cabell, Lincoln, Logan, Mason, Mingo, Wayne; Boyd County, Kentucky, and Lawrence County, Ohio

13C: B-C-K-P Regional Intergovernmental Council
1018 Kanawha Boulevard, East
Charleston, West Virginia 25301
304/344-2541

Counties: Boone, Clay, Kanawha, Putnam

13D: Region 4 Planning and Development Council
500B Main Street
Summersville, West Virginia 26651
304/872-4970

Counties: Fayette, Greenbrier, Nicholas, Pocahontas, Webster

13E: Mid-Ohio Valley Regional Council
217-4th Street
Parkersburg, West Virginia 26101
304/485-3801

Counties: Calhoun, Jackson, Pleasants, Ritchie, Roane, Tyler, Wirt, Wood

13F: Region 6 Planning and Development Council
201 Deveny Building
Fairmont, West Virginia 26554
304/366-5693

Counties: Doddridge, Harrison, Marion, Monongalia, Preston, Taylor

13G: Region 7 Planning and Development Council
Upshur County Court House
Buckhannon, West Virginia 26201
304/473-6564

Counties: Barbour, Braxton, Gilmer, Lewis, Randolph, Tucker, Upshur

13H: Region 8 Planning and Development Council
5 Main Street
Petersburg, West Virginia 26847
304/257-1221

Counties: Grant, Hampshire, Hardy, Mineral, Pendleton

13I: Eastern Panhandle Regional Planning and Development Council
121 W. King Street
Martinsburg, West Virginia 25401
304/263-1743

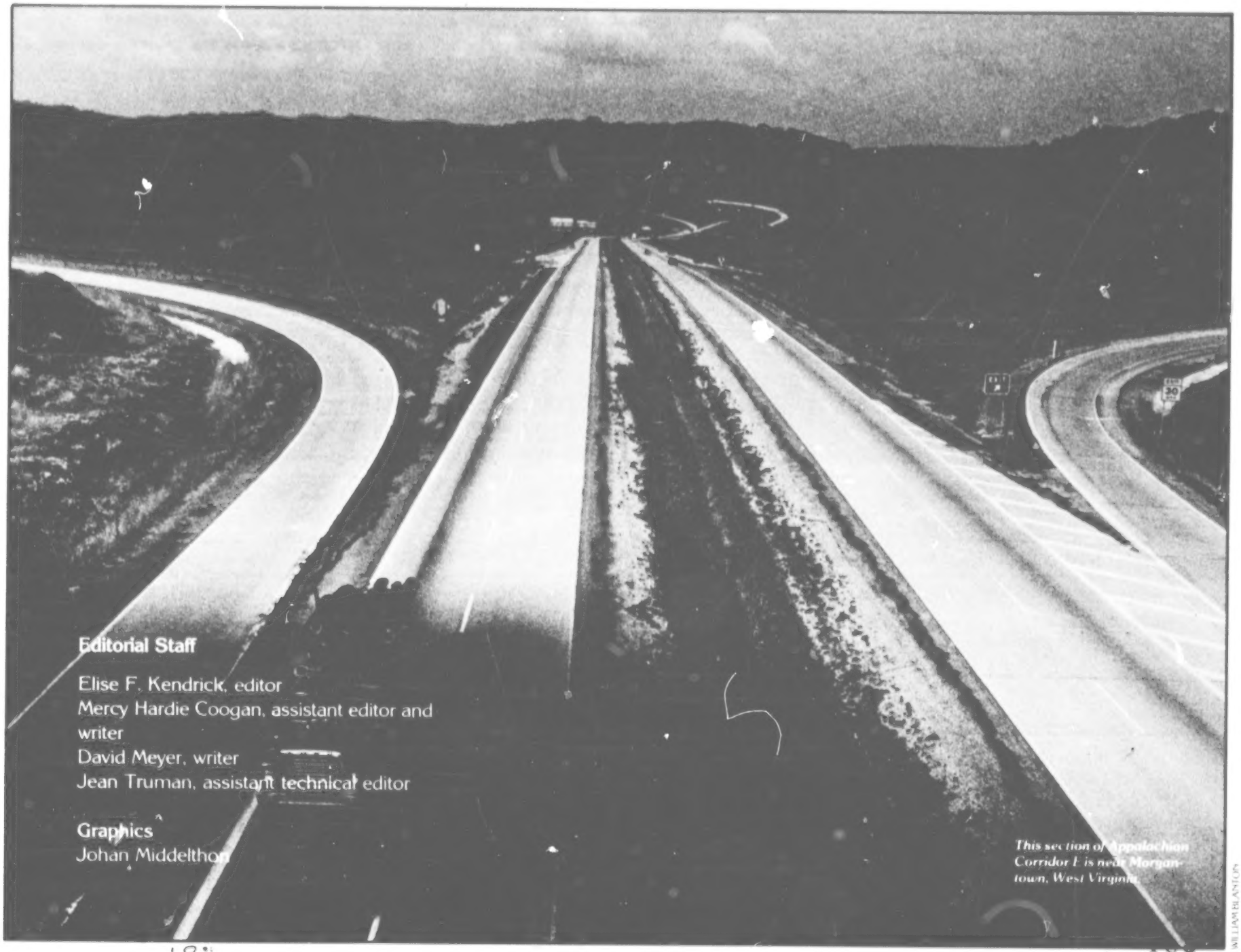
Counties: Berkeley, Jefferson, Morgan

13J: Bel-O-Mar Regional Council and Planning Commission
2177 National Road, P.O. Box 2086
Wheeling, West Virginia 26003
304/242-1800

Counties: Marshall, Ohio, Wetzel; Belmont County, Ohio

13K: BHJ Planning Commission
814 Adams Street
Steubenville, Ohio 43952
614/282-3685

Counties: Brooke, Hancock; Jefferson County, Ohio



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Johan Middelthon

This section of Appalachian Corridor L is near Morgantown, West Virginia.

WILLIAM BLANTON